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Vol. 33, No. 9



SEPTEMBER
1965

2/6

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OUR COVER

One of our draughtsmen, Ken VK3GK, gets his boy off to an early start. What makes it tick!

FEDERAL COMMENT



SHOULD WE ALL GO SINGLE SIDEBAND?

There seems to be a current misconception—quite widely spoken about—that all Australian Amateur transmitting licensees must change over to single sideband transmission by 1970. This is not true! It is true to say, however, that the 1959 Conference of the International Telecommunications Union did require fixed and mobile services operating in the frequency spectrum between 4 and 27 Mcs. to make the change by this date, and a sub-committee has been making investigations on this problem since the Conference. Whilst this decision included Commercial Services, it did not include the Amateur Service which, because of the nature of its experiments, investigations and research, is granted band allocations in which it is free to operate using most of the known modes of transmission and reception.

However, the matter prompted some thinking on whether we should all go single sideband or not. Naturally, many of the sidebanders—some of whom have been using the technique for 15 years—will tell every a.m. and c.w. operator to "get modern and cease using ancient systems."

Is this really what we want to do? Are we really right in thinking that we should dispense with all the older systems of communication in favour of single sideband? Is single sideband the ultimate from which every newcomer to Amateur Radio can gain experience and knowledge in exercising the privileges granted to him with his licence? Perhaps we should all take another look at this!

Certainly single sideband has proved to be a most useful form of transmission, particularly during the current condition of the sunspot cycle. And for sure it offers the advantage of "more-stations-per-kilo-cycle" when produced efficiently. But should we so upgrade this mode of transmission that the younger ones coming up behind us tend to lose interest in Amateur Radio because they (a) perhaps cannot afford the cost of s.s.b., or (b) become scared of the technical complicity compared with a.m. and c.w.?

Perhaps at this stage of the art we should do less preaching about "getting modern" and encourage our youth through every possible medium to take an interest in Amateur Radio at the lower level. The W.I.A. Youth Radio Scheme is doing this most successfully. Australia is in dire need of electronic engineers in every phase of the radio and electrical industry and Amateur Radio is a wonderful launching platform to send young people off on the right course to fit them for the posts available to those who choose electronics as a career.

Let us not become so sophisticated that we think only of the latest technique and that everyone should use it. By all means let us encourage the experienced Amateur to exploit new fields and keep abreast of progress in the art of Amateur communication. But we must not fail to also encourage the young people to graduate from simple a.m. and c.w. communication for it is the bulwark of our hobby no matter what technical advances are achieved at the ultimate. It is, perhaps, too early for all of us to go single sideband!

—Max Hull, VK3ZS, Federal President.

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A LOW NOISE FIGURE CONVERTER FOR TWO METRES*

C. J. HURST,† VK5ZHI

RECENTLY Jeff VK5ZP, Tubby VK5NO and the author entertained thought of attempting 144 Mc. Moonbounce. One of the many obstacles crossing "easy street" was a converter having an acceptable noise figure. For Moonbounce a n.f. of 3 db. or less is most essential and first up a parametric amplifier was considered. However, due to the high tolerances required in the construction of same, it was considered that a conventional converter could achieve a comparable n.f. with less constructional difficulties.

Having decided on the construction, the choice of an r.f. amplifier was considered with valves in mind such as the 416B, 417A, A22521 and GE7077. Of these four valves the 416B and GE7077 have n.f.'s at 144 Mc. of 2 and 2.2 db. respectively. Because the 416B has to be "blown" it was considered that at a cost of 0.2 db. a GE7077 would be the logical choice as the r.f. amplifier. To obtain this published n.f. a grounded grid amplifier has to be used. In order to minimise mixer noise a triode mixer was considered desirable and a 6CW4 grounded grid mixer was our final choice.

To obtain a good match to the main receiver a cathode follower was considered necessary, hence the addition of another 6CW4. The oscillator injection was required to be as stable as practicable possible. To this end the transistor fundamental crystal oscillator is to be placed in a thermos flask for temperature stability. The output from this oscillator is then multiplied to the heterodyning frequency on one half of a 12AT7. However, oscillator chains usually depend on the individual constructor.

With reference to the circuit diagram it can be seen that the r.f. amplifier is a conventional grounded grid stage with the exception that additional capacity C2 was found necessary to give the plate coil L2 a good peak when C3 was tuned. Without C2 added, the plate coil was very broad with no definite peak in signal.

The plate coil of the mixer L4 is wound to resonate with the plate grid capacity of the mixer and capacity loading of the cathode follower, at the frequency of the i.f. used, which in this case is 28 Mc. The purpose of R4 is to broaden the tuning of L4. Generally L4 can be replaced with a resistor of approx. 47K as the mixer plate load, but in this case the coil was considered necessary to reduce images to a much lower level than considered necessary for general "Hamming." The length of co-axial cable connected from J2 to the receiver input should be a maximum of 24" long.

The tuning of this converter is no different from any other xtal locked converter, and should not present any problems. However, to obtain the lowest noise figure a noise generator is required to aid adjustment. By

varying the tap on the input coil and tuning of same, the published n.f. can be obtained. To date the n.f. has not been measured for the converter described but in comparison with the 6ES8 cascade in service at this QTH a marked improvement is most apparent. In order to obtain the ultimate possible an additional 7077 grounded grid pre-amplifier has been constructed and added in front of the unit described. This pre-amplifier is identical to the r.f. amplifier described with the addition of a one-turn link coupled into the plate coil which feeds into the aerial input connector J1 of the main converter.

Although a GE7077 has been used as the r.f. amplifier in the unit described, no reason exists why any good v.h.f. low noise triode cannot be used—for example, 417A, A22521 or even a 6CW4, instead of a 7077 if one is not available. The only variation in circuitry will be the value to grid leak R1 and slight variations in valve capacities may necessitate a slight change in coil sizes. The coil information supplied will allow tuning of converter to frequency with little trouble. The use of a grid dip oscillator will make the adjustment of coils all that much easier. To facilitate construction a brass chassis was used. This allows you to solder components directly to the chassis, thus reducing long r.f. con-

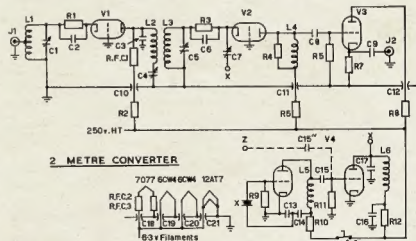
nections, and the chances of introducing instability.

A logical method of construction is to (after deciding on the layout):—

- (1) Mount valve sockets and co-axial fittings.
- (2) Solder feed-through capacitors and variable capacitors into position.
- (3) Wire up filaments.
- (4) Wire in resistors and capacitors.
- (5) Wind and mount coils in correct positions.

It is generally wise to mount the coils last so as to prevent damage while constructing. At the completion of wiring, testing can be initiated. Firstly, the oscillator chain should be peaked up and the overtone oscillator checked for the correct mode of operation. The Robert Dollar overtone shown will work effectively with a 47 pF. feedback capacitor. Checking in a receiver either on the fundamental frequency or the 3rd harmonic of the fundamental will indicate the correct operation. As L5 is tuned to frequency, the fundamental will cease to be heard, and if listening to the 3rd harmonic, a decrease in frequency of approx. 20 Kc. will be evident, when the crystal is operating in correct overtone mode.

(Continued on Page 10)



- R1—82 ohms $\frac{1}{2}$ w.
 R2—18K ohms, 1 w.
 R3, R12—1K ohms $\frac{1}{2}$ w.
 R4—22K ohms $\frac{1}{2}$ w.
 R5—75K ohms 1 w.
 R6, R9, R11—100K ohms $\frac{1}{2}$ w.
 R7—22K ohms 1 w.
 R10—10K ohms 1 w.
 C1, C4, C5, C7, C17—1-7 pF. variables.
 C2, C3—220 pF. disc ceramic.
 C3—4 pF. disc ceramic.
 C6, C8, C13, C15—47 pF. disc ceramic.
 C10, C11, C12, C16, C18, C19—0.001 pF.
 feed-through's (preferably solder-in type).
 C14—0.001 pF. disc ceramic.
 J1, J2—Co-axial connectors.
 X—Crystal to suit individual requirements.

- RFC1, RFC2, RFC3—Maximum amount of turns of 28 B. and S. that can be fitted on 47K 1 watt resistor.
 L1—7 turns $\frac{1}{8}$ in. diam. x $\frac{1}{2}$ in. long, 16 s.w.g. tinned copper wire, tapped at 4 turns from cold end.
 L2—6 $\frac{1}{2}$ turns $\frac{1}{8}$ in. diam. x $\frac{1}{2}$ in. long, 16 s.w.g. l.w.w.
 L3—3 turns $\frac{1}{8}$ in. diam. x $\frac{1}{2}$ in. long, 18 s.w.g. l.w.w.
 L4—Tune to i.f. used, 28 B. and S. enamel.
 L5—To suit 3 x xtal frequency, 28 B. and S. enamel.
 L6—To suit 144 Mc. l.f.
 V1—GE7077.
 V2—6CW4.
 V3—6CW4.
 V4—12AT7.

* Reprinted from "Info," January, 1965.
 † 12 May Terrace, Gower Rail, South Aus.

ANTENNASCOPE-54*

WILFRED M. SCHERER, W2AEF

THE Antennascope and Antennascope-54 are very simple radio frequency bridges for the measurement of antenna impedance and resonance. They may also be used for a wide variety of other measurements and the second part of this article will discuss this subject at great length.

As usual in bridge circuits, the variable element (R1) is adjusted until a zero null is obtained on the indicating device (Detector). Through the calibration of R1, the value of the unknown element, Rx, is found. Since the ratio arms, R1, R2 and R3, are resistive elements, the unknown Rx must also be resistive, or non-reactive, before an accurate balance can be obtained. The configuration of this simple bridge is shown in Fig. 1. The schematic of the improved Antennascope-54 may be seen in Fig. 2.

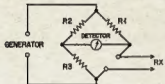


Fig. 1—Fundamental bridge circuit. This is the basic bridge of the Antennascope-54. Balance of the bridge is indicated by a null, or zero reading on the meter.

The impedance presented by an antenna is resistive only at resonance. The bridge in the Antennascope-54 cannot be brought to balance until the r.f. generator is at the resonant frequency of the antenna in question. Thus, the Antennascope-54 also provides a foolproof method of quickly and accurately determining the resonant point of any antenna. It is the working out of these two problems; i.e. radiation resistance and resonance, where the constructor will find the greatest value of the Antennascope-54.

The useful range of the Antennascope-54 is from 10 through 500 ohms. In the original unit this was covered by a single scale which resulted in those readings below 100 ohms being crowded. In this new improved model two scales have been provided. A "high" scale (R1a) with readings of good visibility from 50 to 500 ohms. A "low" scale (R1) with good readings of from 10 to 100 ohms. Values between 0 and 10 ohms, and 500 to 1,000 ohms, may be read through the use of external resistors.

The Antennascope-54 is designed to be used with a grid dipper as the r.f. generating source.

CONSTRUCTION

In the wiring schematic of the Antennascope-54 (Fig. 2) the only real critical components are R1 and R1a. Crystal sensitivity is also important and is discussed later on in this text.

● It is the ambition of each magazine editor to be able to look back upon a continuing series of notable contributions to the field of his journal. "CQ" has been fortunate to include on its staff the Ham that popularized the grid dipper and TNS, while adding the "antennascope" to the family of test instruments. After its introduction in 1954, the "antennascope" quickly became a necessity in many Ham shacks and is being manufactured by equipment companies.

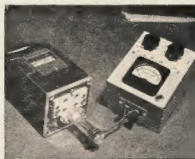
The activation of many new Amateurs since 1954 has forcefully brought to our attention the fact that to many the "antennascope" is a mysterious device. With the depletion of back issues of "CQ" containing the original disclosure on the "antennascope" (September, 1950), no further material on its use has appeared in print.

It is also known that the mechanical design of the first "antennascope" left something to be desired. Electrically, although basically a simple design, it had never been up-dated to use the newer crystal detection diodes.

The "Antennascope-54" is a modification of the original instrument. The improved version is the result of several years of study on how and where it is used. We are sure you will find this article of interest.

From an ideal aspect, R1 and R1a should be perfect non-reactive resistors, thus any old-type potentiometer of the proper value will not work in this spot. Each potentiometer that we have used and measured has had some internal inductance and capacitance. Too much of either of these items will seriously inhibit the use of the Antennascope-54 on the higher frequencies.

The original model of the Antennascope employed a Centralab Type M composition potentiometer. Unfortunately,



Antennascope-54 coupled to Grid Dipper.

ately, this control is not available on the general amateur market, although some companies have obtained a quantity on special order. During the development of the Antennascope-54 we tried dozens of substitutes to find a suitable replacement. The next best thing to the Centralab potentiometer is the Allen-Bradley Type J, followed rather closely by the Ohmite Type AB. Either of these controls may be used for entirely satisfactory results within the useful frequency range of this instrument.

Before a potentiometer is soldered into this circuit it should be checked with an ohmmeter. Temporarily mount it with a scale so that the presence of backlash may be ascertained. Rotate the arm back and forth and note whether or not the identical ohmmeter readings occur at the same scale reading when approached from either clockwise or counter-clockwise rotation. In some controls the carbon contact in the slider arm may be loose. It can be tightened by crimping the mounting clip.

The range switch, Sw1, which is a new feature in the Antennascope-54, must be of the small slide type. Toggle and wafer switches cannot be used here.

Resistors R2 and R3 must be identical values and although shown in Fig. 2 as having a value of 200 ohms, they can be anything from 50 to 300 ohms—as long as they are identical. Another word of caution. Do not make the mistake of using the wire-wound resistor that physically look like their carbon brothers.

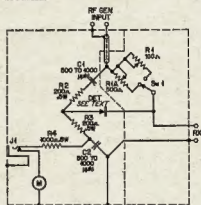


Fig. 2—Wiring schematic of the Antennascope-54. In this model a range switch, Sw1, has been added. A jack, J1, is placed in series with the meter, although it is essentially unnecessary. Some constructors will find it useful for making readings somewhat removed from the actual position of the instrument.

C1, C2—(see text) must be identical values of from 500 to 1,000 pF.
J1—closed circuit jack.
R1—(see text) 100-ohm potentiometer.
R1a—same as above, but 500 ohms.
R2, R3—(see text) must be identical values of 50 to 300 ohms, non-inductive.
R4—1,000 ohms, $\frac{1}{4}$ W.
Det.—(see text) may be 1N23B, if mounting clip is constructed, or 6TA if wire leads are desired.

*Reprinted from "CQ", June 1954.

Condensers C1 and C2 must also be matched to identical values between 500 and 1,000 pF. The button type ceramics are ideal for maintaining low inductance in their corresponding bridge arms. It is possible to use mica, disc or tubular ceramics in the Antennascope-54 if the instrument will never be used above 30 Mc.

CRYSTAL DIODES

The design of the original Antennascope was predicated on the use of the 1N23A diode. Since that time, the stability and sensitivity of that diode has been improved (1N23B) and a great number of crystal diodes are now on the market for use on u.h.f. t.v. Some of these are cheaper than the 1N23 series and have the additional facility of being easily mounted.

The comparative sensitivities as I have measured them during the development of the Antennascope-54 are as follows:

1N23B	100%	(Sylvania)
1N23A	95%	(Sylvania)
G7A	93%	(General Elec.)
1N58	85%	(Sylvania)
1N34	65%	(Sylvania)*
CK710	60%	(Raytheon)

* Very frequency sensitive and poor at the high frequencies.

Since the Antennascope-54 is to be used with a very low power r.f. source (a grid dipper) the eventual sensitivity will also depend upon the meter movement. A full-scale movement of 200 microamperes is recommended with an internal resistance of 1,000 ohms. The second part of this article will describe the Antennascope Junior which is built without a self-contained meter. This will further reduce the overall cost of this instrument by making use of the existing microammeter in your volt-ohmmeter.

MECHANICAL DETAILS

An "exploded" view of the Antennascope-54 is seen in Fig. 3. The unit is assembled in a box 3" x 4" x 5". An inner shield and shelf (B) is folded and drilled out as shown in Fig. 4. The box is also drilled and cut out as shown in the latter figure. Note particularly the irregular cutout in the left-hand view (Rx) which clears the binding posts (Rx) and range switch, Sw1.

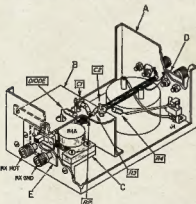
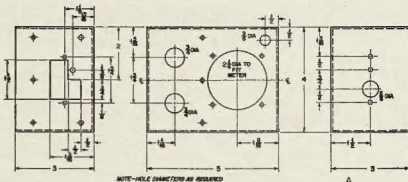


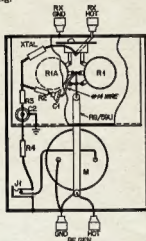
Fig. 3.—Wiring view of the Antennascope-54. The layout should be followed as closely as possible.



coupling. Minimum lead length is especially important for the connections between the potentiometers and the range switch, and between the "hot" Rx terminal and the switch. For these reasons, R1 and R1a are positioned and mounted so that their terminals may be soldered almost directly to the switch tabs. The tab from the sliding arm of the switch is connected directly to a lug at the bottom of the "hot" Rx terminal.

The crystal diode shown in the unit in these photographs is a G.E. G7A. It is mounted in place with its own wire leads.

The various numbered and unnumbered figures and photographs in this article should clearly illustrate the wiring.



Wiring view and layout.

CALIBRATION IS EASY

The first step in calibrating the Antennascope-54 is to attach an accurate ohmmeter between the "hot" Rx

terminal and the "hot" r.f. generator input terminal. Place the range switch to the left to engage R1 for the 10 to 100 ohm range. Mark out your scale on the face of the base (the design of which I leave to the individual) and divide it into steps of from 2 to 5 ohms.

Now slide the switch to the right to engage the higher range and subdivide the scale into steps of 25 to 50 ohms. Don't be startled to find that the potentiometers increase their resistance in opposite directions. Remember that R1, because of this mechanical layout, must be turned counter-clockwise and R1a must be turned in a clockwise direction.

It should now be possible to verify these calibration points through a facsimile of an actual r.f. measurement. First couple the r.f. input of the Antennascope-54 to your grid dipper coil and put a 50-ohm resistor across Rx. See Fig. 5 for a general idea of how this is done.

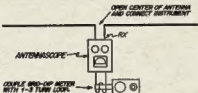


Fig. 5.—Basic use of the Antennascope-54.

Use a frequency from the grid dipper of about 20 Mc., and while it is oscillating put the range switch on the "low" scale and see if the 50-ohm value is being read. Move to the "high" scale and repeat to see if 50 ohms is also being read there. Rotate each control several times to find a scale value, and see if backlash is absent—it should be.

The readings should result in pronounced nulls on the meter. If only partial nulls other than absolute zero are observable, the Antennascope-54 is

not working properly. Check first with a different value of test resistor since the first one might have been reactive. It is important to keep the leads very short during this test and that the resistor be non-reactive—oddly enough some are quite reactive.

Once a null has been found with a given resistor you will find that lead length can upset the balance. The leads of your test resistor must also be very short. Do not parallel connect resistors for testing the Antennascope-54—use non-reactive 1/4-watt single resistors.

Poor nulls can result from stray coupling effects in the Antennascope-54 but if the wiring and chassis layout is followed as shown in the figures this trouble should not arise.

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Extending Range of the BC221 Frequency Meter*

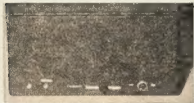
V.H.F. AND U.H.F. RANGES WITH HIGH ACCURACY

ALFRED K. ROBINSON, W6PM

THE improvements that have been made in recent years in radio-receiver and transmitter oscillator stability have not lessened the need for frequency measurements of high accuracy. Particularly in the v.h.f. and u.h.f. ranges, reliable measurement, has, in fact, assumed even greater importance.

Amateurs interested in frequency measurement have long relied on the surplus BC-221 frequency meter because of its low cost compared to that of any other instrument of equivalent accuracy. Using the original calibration book, the excellent hermetically sealed 1-Mc. crystal oscillator, and the standard calibration points, an accuracy of 0.02 per cent. or better can be expected over the fundamental range of 2 to 4 Mc. By the use of intermediate calibration points and careful adjustment this accuracy can be easily increased to 0.01 per cent.

Measurements at frequencies higher than 4 Mc. are made by comparing the unknown frequency with harmonics of the fundamental 2- to 4-Mc. range. Even if the same percentage accuracy is possible at these harmonic frequencies, the absolute accuracy (in terms of cycles or kilocycles) deteriorates in direct proportion to the order of the harmonic used. An error of 0.01 per cent. at 2 Mc. is 200 cycles; at 200 Mc. it is a matter of 20 Kc. Greater absolute accuracies at the higher frequencies require that the percentage accuracy increase as frequency increases.



Controls along the bottom edge of the front panel of the BC-221 are for crystal-frequency trimming, the calibrate-operate switch, and the power switch.

A heterodyne system offers a method of accomplishing this objective. In such a system to be described, the unknown high frequency and a highly stable signal of known frequency are combined in a mixer to generate a beat frequency lying in the 2- to 4-Mc. fundamental range of the BC-221. If fixed marker signals are provided, spaced at intervals of 4 Mc. throughout the desired range, the unknown frequency will always lie within 2 to 4 Mc. of one of these markers. The BC-221 is then used as an interpolator measuring the difference between the unknown frequency and an adjacent

● By making use of the harmonics of the highly stable crystal calibrator of the BC-221 in a heterodyne system, the accuracy obtained at frequencies up to 200 Mc. or higher is essentially that of the BC-221 in its 2-to-4-Mc. range.

marker. Assuming that the marker frequency can be determined with zero error, the absolute accuracy with this system is the absolute accuracy of the BC-221 at its fundamental. The percentage error in measurement of the unknown frequency is then the fundamental percentage divided by the order of the harmonic against which the unknown signal is beating.

REFERENCE MARKERS

In this modification, the original 1-Mc. crystal oscillator taken from the BC-221 is used as the primary source of reference markers. The required 4-Mc. spacing is obtained by means of the circuit shown in Fig. 1. Frequency is quadrupled to 4 Mc. in the plate output circuit of the oscillator. This signal is fed to a 4-Mc. amplifier which attenuates the 1-Mc. components, and other undesired products generated in the quadrupling process. The filtered 4-Mc. signal is used to overdrive a series of multiplier stages with broadband tank circuits and oversize coupling capacitors, each stage overdriving its successor. The result is a series of strong marker signals spaced at intervals of 4 Mc. throughout the desired range. By adjusting the crystal frequency so that one of these markers zero beats with WWV, the marker sig-

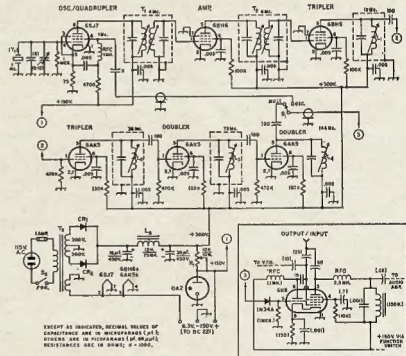


Fig. 1. Circuit of the 1-Mc. crystal oscillator and frequency multipliers which generate markers at 4-Mc. intervals throughout a wide spectrum. Fixed capacitors of decimal value are disc ceramic; others are silver mica of NPO ceramic, except where polarity indicates electrolytic. Fixed resistors are ½-watt composition. Values in parentheses are the original. Inset shows modifications in the original mixer circuit.

CR1, CR2—Silicon rectifier, 10000 p.i.v., 100 mA. or more.

LI-L4, inc.—Circuits should resonate at the frequencies indicated. Coils may be air-wound, or wound on adjustable iron-core forms, and used with or without shunting capacitance. Capacitors, if used, should be silver mica or NPO ceramic. Approximate inductances re-

quired when no shunting capacitors are used are as follows: LI—13 μ h., L2—1.3 μ h., L3—0.3 μ h., L4—0.1 μ h.
L5—12-hy. 75-mA. filter choke.
R1—Slider adjustable.
S1—S.p.a.t. rotary switch.
S2—S.p.a.t. toggle switch.

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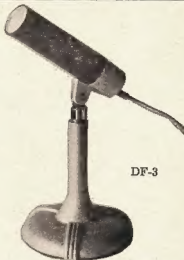
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nals can be set with a high degree of accuracy.

The unknown frequency and marker frequencies are combined in a modification of the original BC-221 mixer. As described, the unit is designed to make measurements in the range of 2 to 300 Mc. In some other similar units, the range has been extended to 600 Mc., although the 4-Mc. points become increasingly difficult to identify. S₁ provides a means of feeding the 1-Mc. crystal signal directly to the mixer for calibration purposes.



Bottom view of the oscillator-multiplier chassis. The crystal-oscillator trimmer is in the lower left-hand corner. The crystal-oscillator screen r.f. choke is close to the 65J7 socket under the bottom-plate bracket at bottom center. L₁ is immediately below S₁ at left center. The three controls at the left extend through holes cut near the bottom of the front side of the BC-221 cabinet.

POWER SUPPLY

A small power supply is included. This provides about 300 volts for the multipliers, and regulated 150 volts for the crystal oscillator and the circuits of the BC-221, as well as filament voltage for both. The original 6X5GT tube rectifier shown in the top view photo was eventually replaced with silicon diodes to reduce heating.

MIXER MODIFICATION

The inset in Fig. 1 shows the simple modification of the original mixer circuit. The triode section of the 6K8 is used as an untuned amplifier for the signal from the multiplier chassis. This revision requires the addition of only the diode and the 15-p.f. coupling capacitor after removal of the crystal and its trimming capacitors. The diode serves to accentuate the harmonics.

The hexode section of the tube is unchanged except for the insertion of a 25-mh r.f. choke in the plate circuit to provide an r.f. load, and the addition of a 50-p.f. r.f. coupling capacitor between the plate and the output jack.

CONSTRUCTION

The components indicated in the main diagram of Fig. 1 are mounted on a chassis whose dimensions are proportioned to fit the bottom part of the BC-221 cabinet. Sufficient space

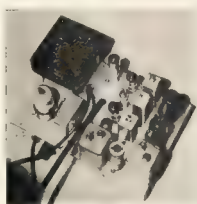
for the chassis is provided by drilling out the rivets and removing the headphone compartment.

The essential details of the layout are visible in the photographs. The 1-Mc. crystal, its socket and associated trimming capacitors are removed from the BC-221 proper and remounted on the new chassis. It will be noticed that power-supply components and the crystal oscillator are at opposite ends of the chassis to reduce heat transfer and hum pick-up. Holes in each side of the case provide ventilation.

MAKING MEASUREMENTS

Practice with a few signals of known frequency and an accurately calibrated receiver to identify the 4-Mc. markers will soon show the utility and limitations of the system. To set up for a signal output at some desired frequency, a simple procedure should be followed. To create a signal at a desired frequency, the nearest crystal marker removed at least 2 Mc. from the desired frequency should be used as the reference. If the desired frequency is 157.71 Mc., the 160-Mc. marker should be used. (The 156-Mc. marker is closer, but is less than 2 Mc. away from 157.71 Mc., and therefore the beat will fall outside the 2-4 Mc. range of the BC-221.) The difference between 160 and 157.71 is 2.29 Mc., which (in my case) corresponds to a dial reading of 879.3. The nearest calibration point shown in the calibration books is 795-1 to which the dial should be set. With the 1-Mc. calibrator signal injected, the frequency meter correction knob is adjusted for zero beat. Then, shifting the mixer drive to the multiplier chain and setting the meter dial to 879.3 will produce a signal at the desired frequency.

For quick reference for this and other much-used frequencies, notations similar to the following are made:



The crystal-oscillator and frequency-multiplier unit for the BC-221. In the row to the right, from top to bottom, are the 1-Mc. crystal, 65J7 and TI-Threes of the four multiplier coils are in the shielding cans in the next row, with the 6BM6 4-Mc. amplifier tube at the bottom. The fourth multiplier coil (L₄) is mounted through a hole in the chassis, largely hidden by the shielding can at the top. (See bottom view.) The four multiplier tubes and TI are in the third row. Power-supply components occupy the remainder of the chassis. The coaxial line feeds signals from S₁ to the mixer in the BC-221. The multiconductor ribbon makes the power connections.

Frequency—157-710.

Meter Frequency—2290

Meter dial setting—879.3

Nearest check point—795.1.

In measuring the frequency of an externally generated signal, it is assumed that other means are available for checking the frequency to an accuracy sufficient for determining the marker frequency that will serve as the reference. The signal is then fed into the BC-221 and, with headphones plugged into the meter, the meter is tuned for zero beat with the beat signal that results when the incoming signal is mixed with the marker. If the nearest marker (removed a minimum of 2 Mc. from the unknown frequency) is above the unknown frequency, as in the example given above, the BC-221 frequency reading should be subtracted from the marker frequency to obtain the value of the unknown frequency. If the marker signal is below the unknown frequency, the meter frequency reading should be added to the marker frequency. This condition would exist if the unknown frequency were, for example, 158-7 Mc. In this case, the unknown frequency is less than 2 Mc. from 160 Mc., but more than 2 Mc. from 156 Mc., so the latter would be the reference.

In measuring externally generated signals, care should be taken to attenuate the signal to a point that will assure that the mixer is not being overdriven. Too strong a signal may result in spurious responses from extraneous mixing with other harmonics of the BC-221, crystal harmonics, or with strong local broadcast or other signals.

If stronger marker signals are desired at the lower frequencies, they can be obtained by using a switch with more positions at S₁, and coupling through a 10-p.f. capacitor to the plate of each multiplier tube.

TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R.," in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.

Manuscripts should preferably be typewritten but if handwritten please double space the writing. Drawings will be done by "A.R." staff

Photographs will be returned if the sender's name and address is shown on the back of each photograph submitted.

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CONVERTER FOR 2 MX

(Continued from Page 3)

Once the oscillator chain is functioning correctly, the remainder of the circuit can be peaked up using either

- (1) A strong local signal—which is not hard to come by around this area;
- (2) The 2-metre beacon situated at Mt. Lofy on 144.8 Mc, or
- (3) Band noise or a noise generator.

Providing that a careful layout has been adopted, grid and plate leads kept short, and good shielding placed between stages, instability problems should be non-existent and alignment should present few problems. The optimum spacing of L2 from L3 is approx. 1". Closer coupling brings about heavy loading on the mixer, which is characterised by a drop off in gain and tendency to load down L3 to the extent that adjustment of C5 does not result in a definite peak in signal.

With regards to the circuit, switch S is used to disconnect the overtone oscillator when stabilised signal (as mentioned previously) is fed to multiplier at point Z. For general purposes this function can be ignored, but was an added requirement for the Moonbounce project.

Regardless of the r.f. amplifier used, the mixer and cathode follower section of this converter provides the foundation of an exceptional unit compared to the equipment in use within VK5 today. If any club member requires any more information regarding the construction or operation of a converter similar to this unit, I am only too willing to assist, either on the air or personally.

FOOTNOTE

Since writing this article the author has had the opportunity to check the n.f. of the converter described. The basic unit described has a minimum n.f. of 4.5 db. This figure would be acceptable even to the most fastidious of 2-metre operators. However, with the addition of another 7077 r.f. amplifier placed in front of the basic converter unit the n.f. of the total system is 2.5 db. Compared with the published value of 2.2 db. it would appear that the value obtained is the ultimate practicably obtainable. Factors of importance when checking the n.f. of a converter with a noise generator are that firstly, the a.v.c. on the main receiver is disabled, and secondly, the r.f. stages on the main receiver are operated in the linear region of valve characteristics.

As mentioned previously the position of the aerial tap on L1 determines to a large extent the n.f. When using the noise generator it was found that varying the aerial tap 1 turn higher or lower than optimum degraded the noise factor by 2 db.

The adjustment of the aerial coil tap is a long and tedious job, and any person hoping to achieve the best n.f. in five minutes can take my advice and forget about it. Results obtained from this converter to date have exceeded expectations, and it is anticipated that within a few months the effort required to build the converter and pre-amplifier to the tolerances required will be well rewarded when a signal bounced off the moon is copied "loud and clear" using this converter. Here's hoping anyhow.



Presentation of I.R.E.E. Pennant (1964) to Westlakes Radio Club by Secretary and Chairman of Newcastle I.R.E.E., on 13th June, 1963, at Westlakes Hunter Branch Field Day (deferred to in notes, July, 1963). L. to R.: Max McLehlan (Club Pres.), Keith Howard VE2AKX (Club Pres.), Henry Schroeder (Club Secy.), John Clarke VK2DZ (Secy., Newcastle I.R.E.E.), Chris Cowan VK2PZ (Chairman, Newcastle I.R.E.E.)

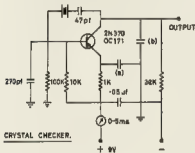
Block by courtesy "Newcastle Courier."

TRANSISTORISED CRYSTAL CHECKER

Editor, "Amateur Radio," Dear Sir,—I wish I knew where I could take my crystal checker and browse through piles of crystals at 10 c. each! Perhaps Mr. Marriner's article should have been cut to reflect Australian conditions, and to prevent too much drooling at the thought of those "carloaders" of crystals.

Actually, what upset me most was his condemnation of transistorised checkers as critical and limited in frequency range.

Here is a circuit, originally appearing in "Transistor Transmitters for the Amateur," by Howard W. Sams & Co., guaranteed to resonate any active fundamental crystal between 100 Kc. and 15 Mc. Although not having any 100 Kc. rocks lying about to try it out to its lower limit, I can vouch for its performance down to 455 Kc. and up to 30 Mc. on overtone crystals.



Range	(a)	(b)
100 Kc. - 15 Mc.	.05 μ F.	270 pF.
to 30 Mc.	68 pF.	22 pF.

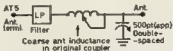
If the 47 pF. capacitor is replaced by a 5-55 pF. trimmer, output from collector can be tapped off for use in calibrating your receiver with 100 Kc. rock.

—Peter Ward.

Antenna Coupler for your AT5 and go on 160 as well

When I bought my AT5 the antenna coupler had been ratted to such an extent that it was of no use to me. The only parts remaining were the coarse antenna inductance and a double-spaced tuning capacitor of about 500 pF., which may or may not have been in there originally.

After much mucking about I wired the thing to the following circuit. It has many advantages, the greatest being that it will match any impedance of unbalanced line; it is practically a pi-coupler, as you can see, when used in conjunction with the existing AT5 tank.



I constructed it in the original coupler box and tied it to the AT5 via about 6 feet of 50 ohm co-axial, and just to be safe I put a low-pass filter in the middle of the line. (I have

never operated in anywhere else but fringe areas; the circuit I used is in A.R.L.)

Tuning up is a two-banded operation, dip the tank, adjust the loading condenser. If it does not load heavily enough, try a different value of inductance and re-dip. Just like any pi-coupler.

Okay, to go on 160 with the AT5 screw in the trimmer condenser on the v.f.o. 2-25 Mc. range until it hits the 1.8 Mc. band. Rip out all of the wiring on the m/f. m.o. tuning condenser. There is some underneath, don't miss that. Now, run a wire across to the h/f. buffer/amp. tuning condenser. Okay, you are now on 160.

To tune, put in max. cap. on the h/f. b.a. tuning and tune with the m/f. m.o. condenser that was (this condenser will only be used on 160, on all other bands it must have all its capacity out). You will now find that tuning down to the 2 meg. end on the tank condenser you should dip the final. If this doesn't happen it usually means that the antenna is not long enough.

You meet some mighty nice people on 160.

—Brian J. Warman, VK5BI.

AUSTRALIAN S.W.L. CENTURY CLUB AWARD

Objects.

1.1. This award was created in order to stimulate interest in logging DX in Australia, and to give successful applicants some tangible recognition of their achievements.

1.2. This award, to be known as the "S.W.L. Century Club Award," will be issued to any resident Australian Short Wave Listener who satisfies the conditions following—

1.3. A certificate of the Award will be issued to any applicant who produces proof of having logged 100 countries, and will be endorsed, as necessary, for loggings made in respect of one type of emission.

Requirements.

2.1. Verifications are required from 100 different countries shown in the official "Australian DXCC Countries List."

2.2. The official countries list will be published annually in "Amateur Radio," and will be amended from time to time as required. Should a country be deleted from the list at any time, members and intending members will be credited with such country if the date of logging was before such deletion.

2.3. The commencing date for the award is 1st January, 1966. All loggings made on or after that date may be included.

Operation.

3.1. Loggings must be made in the h.f. band (Band 7), which extends from 3 to 30 Mc. but each logging must only be made of stations operating in the authorized Amateur Bands in Band 7.

3.2. Loggings may be made of any authorised type of emission for the band concerned.

3.3. Credit may only be claimed for the logging of stations using regularly-assigned Government call signs for the country concerned.

3.4. Loggings of ship or aircraft stations will not be allowed, but land-mobile stations may be claimed, provided their specific location at the time of logging is clearly shown on the verification.

3.5. All stations must be logged from the same call area by the applicant.

Verifications.

4.1. It will be necessary for the applicant to produce verifications in the form of QSL cards, or other written evidence, showing that specific loggings have been made.

4.2. Each verification submitted must be accepted as received from the station, signals were logged, and altered or forged verifications will lead to the rejection of that card, and may lead to the disqualification of the applicant.

4.3. Each verification submitted must show the call sign, the date, and the time of contact, type of emission and frequency band used, and the location or address of the station at the time of logging.

4.4. A check list must accompany every application setting out the following details:

4.4.1. Applicant's name and Listener number, if any, and whether a member of the W.I.A. or not;

4.4.2. Details of any special endorsement involved;

4.4.3. Details of each contact as required by Rule 4.3;

4.4.4. The applicant's location at the time of each logging if portable/mobile operation is involved;

4.4.5. Any relevant details of any contact about which some doubt may exist.

Applications.

5.1. Applications for membership shall be addressed to the "S.W.L. Awards Manager," G.P.O. Box 2811W, Melbourne, Victoria, accompanied by the verifications, check list and sufficient postage for the return of the verifications, registration being included if desired.

5.2. A nominal charge of 25 c. (R/), which shall also be forwarded with the application, will be made for the issue of the certificate to successful applicants who are non-members of the Wireless Institute of Australia at the time of application.

5.3. Successful applicants will be listed periodically in "Amateur Radio." Members of the S.W.L.C.C. wishing to have their verified details, over and above the 100 necessary for membership, listed, will notify these totals to the S.W.L. Awards Manager in writing.

5.4. In all cases of dispute, the decision of the "S.W.L. Awards Manager" and two officers of the Federal Executive of the W.I.A., in the interpretation and application of these rules, shall be final and binding.

5.5. Notwithstanding anything to the contrary in these rules, the Federal Council of the W.I.A. reserves the right to amend these when necessary.

—Eric W. Treblecock, LD442/BERS193, W.I.A. "S.W.L. Awards Manager"

THE NEW "A.R." LOG BOOK

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East Melbourne, C.2, Victoria.

THE 20th ANNUAL FEDERAL CONVENTION OF THE W.I.A.

The 1965 Federal Convention was held in Melbourne during April and it is perhaps appropriate some months later to make some comment in these columns and to indicate what has occurred as a result of the Convention.

Those of you who are well versed in the administrative organisation of the Institute will know reasons for holding a Federal Convention, but for those who are new to the W.I.A., Federal President Max Hull's editorial in the June, 1965 issue of "A.R." makes it clear that the Convention is the place where Divisional Federal Councillors get together as a Federal Council to consider the policy of the Institute and to instruct Federal Executive how to act on its behalf in the year to follow.

Members attending the 1965 Convention were:

Major W. T. S. Mitchell, VK3UM, Federal President;
Mr. G. M. Hull, VK3ZS, Federal Vice-President;
Mr. P. D. Williams, VK3IZ, Federal Secretary;
Mr. P. J. Healy, VK2APQ, VK2 Delegate;
Mr. K. H. Howard, VK2AKX, VK2 Observer;
Mr. M. J. Owen, VK3ZEO, VK3 Delegate;
Mr. J. B. Batrick, VK3OR, VK3 Observer;
Mr. K. E. Pincott, VK3AFJ, VK3 Observer;
Mr. L. Blagborough, VK4ZGL, VK4 Delegate;
Mr. G. M. Taylor, VK5TY, VK5 Delegate;
Mr. P. M. Williams, VK5NN, VK5 Observer;
Mr. H. Roberts, VK5MY, VK5 Observer;
Mr. R. Chamberlain, VK6RY, VK6 Delegate;
Mr. L. A. Machetti, VK6ZDM, VK6 Observer;
Mr. E. J. Cruise, VK7EL, VK7 Delegate.

In addition many other Amateurs were present at various times to listen to the discussions taking place.

After receiving the minutes of the 1964 Convention and discussing officers' reports on activities of the previous 12 months, Federal Council bent itself to the task of considering the large number of constitutional, policy, administrative, regulatory, contest and general business items that were on the agenda.

Constitutional matters discussed embraced the preparation of Convention agendas, the appointment of Federal Executive, Divisional membership levels, improved liaison between Executive and Divisional Councillors and the exact role to be played by Federal Executive in the future. Discussion on these subjects was always frank and open and from them came a much clearer understanding of the way in which the Institute would operate in the forthcoming year.

The policies to be adopted by the Institute then came under review and the items considered were reciprocal licensing, reports from F.E., terms of

office of Federal Councillors, minimum age limits for A.O.C.P. and L.A.O.C.P. aspirants, badges for Honorary Life Members, the use of sideband in relation to Amateur activities and the venues for the 1966 and 1967 Federal Conventions.

It is of interest to note that the policy of the Institute to press for reciprocal licensing facilities met with major success on the 25th June this year, when Notes of Agreement to establish reciprocity of Amateur licensing privileges were signed between the United States and Australia.

When administrative matters were raised many facets of this phase of the Institute's activities were aired. These included the purchase of sideband equipment for F.E., the establishment of a Federal Reserve Fund, the best publication date for the Call Book, W.I.C.E.N., Divisional slow morse transmissions, the re-establishment of the Federal Communications net and mutual interference between official broadcasts and nets in the various States.

On regulatory matters the subjects of sideband power and measurement, the use of call signs, additional classes of licence, the issue of call books and the granting of high power permits came under review. As a direct result of the outcome of these deliberations, F.E. has prepared and presented a long and detailed memorandum of submissions to the Department and is currently engaged in the sometimes delicate task of ensuring that Amateur privileges are not only maintained but improved. In the submissions to the authorities special emphasis was given to the status of the Amateur in Australia and to power limits for sideband.

Contests and awards are subjects dear to the heart of the Amateur and it is not surprising that considerable attention was paid to them by the delegates. The appointment of an awards manager, the prompt presentation of trophies and certificates, the dates of national contests, the possible modification of contest rules, the vetting of QSL cards and the location of the contest committee all came under review. It is pleasing to report at this time that all the decisions made regarding contests have been implemented.

Matters of general business were the last to be deliberated and were many and diverse. They covered the growth, status and financing of the Youth Radio Scheme sponsored by the Institute, the present situation of the proposal for Federation, the purchase of photo copying equipment for F.E., the appointment of an "Oscar" project coordinator, the presentation of "Federal Comment" in "A.R." and finally, the establishment of a financial operating budget for 1965/66.

It can thus be seen that the 1965 Convention—like its predecessors—was not exactly a holiday in spite of the fact that it was held over the Easter holiday period. Proceedings started after lunch on Good Friday and went on morning, afternoon and evening un-

til after lunch on Easter Monday. The only breaks taken by the delegates were to attend the Convention Dinner on the Saturday evening and to attend a picnic meal in the Dandenong hills organised by the VK3 Division on the Sunday afternoon.

The importance of this, and other Federal Conventions cannot be over-emphasised. In a country as large as Australia it is essential that Divisional Councillors have the opportunity at least once a year of meeting round a table to discuss points of common interest. True they can write to each other—true they can talk to each other on the air—but more can be accomplished by personal contact than by any other means. Misunderstanding can be cleared up and a unanimity of purpose can be established.

The 1965 Convention certainly fulfilled these needs and effectively reaffirmed the purpose of the Institute to act for and on behalf of the Australian Amateur.

It has been agreed that the 1966 Convention will be held in Brisbane and in 1967 the venue will be Hobart.

★

8th Jamboree-on-the-Air

1000 hrs. E.A.S.T. 16th October

to

1000 hrs. E.A.S.T. 16th October, 1965

Objects:

To let Scouts and Guides talk to or listen to their brother Scouts—whether they be in the next town or in another country—and to learn about their activities, families and homes.

To introduce them to Amateur Radio and electronics.

Rules:

1. Licence regulations must be strictly observed at all times.
2. Any part of the 48 hour period may be used.
3. Any authorised frequency may be used. (Your Amateur Operator will be aware of these.)
4. To take part, call "CQ Jamboree" or answer another station using this call. On c.w. use the call "CQ JAM".
5. You can use c.w., a.m., s.s.b. or any mode authorised officially.
6. This is **not** a contest: there are no prizes given for the most contacts made. A participation certificate is sent by your Branch Organiser to anyone sending in a report to his Branch.

Reports:

These should contain a list of stations contacted, showing call signs, locations and Scout Groups represented (and Guide Companies) as well as notes on any interesting happenings, suggestions for next year, etc. If a portable station has been set up especially for the week-end, we would like to know all about it too. Your Branch Organiser would also like a copy of any photograph which may be taken.

John Moyle Memorial National Field Day 1965 Results

AS was the case last year the number of Logs submitted were few in number. However, there was a noticeable increase in the number of Logs from stations operating in Section C, Portable, Multi Operator.

Few comments on the rules were received. The Canberra Radio Society suggested that a considerable increase in the numbers of contestants would result if the power limit were scrubbed in favour of a points handicap system. The thought behind the suggestion was that a considerable number of Amateurs with commercial a.s.b. transceivers could not enter the Contest because of the difficulty in limiting their power input to 25 watts. Comments are invited on this matter.

One operator thought that the duration of the Contest was too long and should be reduced. Another thought that the duration was ideal.

Some of the equipment used by various operators is as follows:—

VK3ZRY: 6 mx Pye Reporter running 5 watts to a 6J6 and fed into the 1 wave whip on the car. On 2 mx he used a modified SCR522 receiver with a built-in 20 watt transmitter feeding a 5 element beam.

VK2BWI: Operated on 40, 20, 6 and 2 metres and used a selection of receivers comprising a National H.R.O., AMR300 and Geloso Receiver, plus a number of crystal controlled converters. The equipment was powered by an a.c. generator and the station was manned by no fewer than eight operators.

VK5CL: Used a Type 3 Mark 2 on 80 metres whilst a Pye unit was used on 6 metres.

VK2ASZ: Found after setting up his station in the car on location that he had left his modulator tubes at home. This necessitated unloading all the gear from the car and making a trip home to get the missing tubes. He had to set up station again when he returned.

In conclusion we would like to congratulate the award winners and thank those who submitted logs and hope that next year's Contest sees an upsurge in field day activity.

—Federal Contest Committee, W.I.A.

AWARD WINNERS

Section A (Portable, Phone)

VK1SB—S. E. Brown	484 pts.
2ASZ—R. L. Lear	583 "
3ZRY—R. L. Harrison	280 "
4ZK—R. M. Feenaghty	925 "
5TH—T. Mitchell	186 "
6MM—M. J. McDonald	162 "
9XI—D. Reed	104 "

Section B (Portable, C.W.)

VK1SB—S. E. Brown	152 pts.
2JM—J. A. Mead	130 "
5ZF—I. L. O'Donnell	318 "
9XI—D. Reed	24 "

Section C (Portable, Multi-Op.)

VK1ACA—Canberra Radio Society	901 pts.
2BWI—V.H.F. and T.V. Group of the N.S.W. Division of the W.I.A.	1176 "

3AWI W.I.C.E.N. Station of the VK3 Division	1648 pts.
5TM R. D. Martin	800 "
6VF—West Australian V.H.F. Group, Inc.	410 "

Section D (Fixed Stations)

VK1LF—L. B. Fisher	196 pts.
2APK—D. F. Klesewetter	750 "
3APJ—P. J. Dettmann	575 "
4LT—A. E. Carter	685 "
5RG—R. S. Gurr	255 "
7SM—S. G. Moore	775 "

Section E (Receiving)

WIA-L2188—C. R. Christensen	720 pts.
L3138—G. N. Earl	805 "
L4018—C. H. Thorpe	215 "
L5065—A. Rafferty	185 "
L6028—B. Prosser	115 "

INDIVIDUAL SCORES

Section A (Portable, Phone)

	Pts.		Pts.
VK1SB	484	VK3AGH	32
2ASZ	583	4ZK	925
3ZRY	280	5TH	186
3AAW	275	5ZF	173
3ASW	232	6MM	162
3JO	139	9XI	124

Section B (Portable, C.W.)

	Pts.		Pts.
VK1SB	152	VK5ZF	318
2JM	130	5OR	35
2YB	122	9XI	24

Section C (Portable, Multi-Op.)

	Pts.		Pts.
VK1ACA	901	VK3CB	1001
2BWI	1176	3YS	621
2ANT	835	5TM	800
2AWI	756	5VE	468
2ATZ	413	5BV	196
3AWI	1648	6VF	410
3RN	1438		

Section D (Fixed Stations)

	Pts.		Pts.
VK1LF	195	VK3ANG	305
2APK	750	3OH	138
2AHV	500	4LT	685
2APQ	215	5RG	255
3APJ	575	5CL	50
SUM	505	7SM	775
3EF	340		

Check Logs VK3ZD, VK7RY

Section E (Receiving)

WIA-L2188—C. R. Christensen	720 pts.
VK2—F. T. Kluth	710 "
WIA-L2033—D. W. Shephard	365 "
VK2—B. R. Mitchell	315 "
WIA-L3138—G. N. Earl	805 "
L3229—R. J. Halligan	700 "
L3042—E. W. Treblecock	830 "
L4018—C. H. Thorpe	215 "
L5065—A. Rafferty	185 "
L5067 T. C. Corbin	45 "
L6028—B. Prosser	115 "

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LMAS

DX

VP4, OA4, BV, ZM7, 7GI, FP, AC5, MP4, ZC6, TY2

Sub-Editor: ALAN SHAWSMITH, VK4SS,

35 Whynot Street, West End, Brisbane, Qld.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB-EDITOR

The low sunspot activity this past 12 months has surely jaded the most ardent DXer. There are always more enjoyable things to do than to spend fruitless hours staring hypnotically at the receiver dial with ears at the most sensitive notch. Without reward, this exercise is most wasteful. If you are one of these the time might be propitious to make a comeback, because some good DX is to be worked and more prizes offered.

So blow the grimes off the dial, dust down the key or shake up the mike and let's see what is doing.

NOTES AND NEWS

Western Caroline: KCSAA Bill, on at 1130z on 1428. Now QRT late September

Niger Republic: SUTAU Smitty Reported on 14242. No time given but 1928 might suit. Don Miller: W9WVY and Chuck-KYLMU will leave the States during early August for a three-month DX-pedition to the Pacific and Far East areas covering about 12 countries that are in the "rare" classification. Details concerning frequencies, dates, modes, call signs, QSL manager, etc. are not known as yet but will be given as they come to hand. Trip is expected to end late November or early December. Don has promised to send direct QSL's immediately after QSO to those who have contributed \$25.00 or more wovel. All others will receive their cards in the usual manner after the trip is completed. The number of countries visited will depend on number of donations. Contributions may be sent now to Ack W4ECL or to the World Radio Prop. Study Association.

IFNL: T12HP and EA3CA will make a full-scale DX-pedition to this hard-to-get spot. Operation to commence 29th September, for period as yet unknown.

Christmas Island: Don-VK9DR and VK9XJ still active. Try listening 14107 kcs, around 1330s or daylight hours at the week-ends.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cor. Cnt-	No. rises	Call	Cor. Cnt-	No. rises
VK4MS	24	320	VK4JZ	61	235
VK4AE	46	318	VK4ADE	65	231
VK4RU	3	307	VK4KX	4	211
VK4MK	43	305	VK4JWL	14	211
VK4JAO	51	301	VK4KX	18	208
VK4JFJ	81	283	VK4JAK	58	205

Amendment

VK4TL	62	207
VK4APK	54	177

C.W.

Call	Cor. Cnt-	No. rises	Call	Cor. Cnt-	No. rises
VK4KH	10	321	VK4IAG	71	274
VK4AE	46	318	VK4AE	65	231
VK4JL	8	306	VK4RU	18	262
VK4JF	29	300	VK4JHq	79	260
VK4ADE	81	283	VK4JAK	58	205
VK4NC	18	286	VK4KH	73	247

Amendment:

VK4RJ	42	338	VK4TL	78	212
VK4APK	75	336	VK4KH	74	184

OPEN

Call	Cor. Cnt-	No. rises	Call	Cor. Cnt-	No. rises
VK4AE	28	328	VK4ACK	63	231
VK4RU	8	312	VK4NC	7	287
VK4JF	32	308	VK4JA	43	271
VK4MK	74	307	VK4HR	7	254
VK4ADE	76	286	VK4RU	18	247
VK4JH	83	303	VK4JZ	23	242

Amendment:

VK4TL	85	225	VK4JX	83	123
VK4APK	82	225			

New Member:

VK4ANO	96	101
--------	----	-----

San Marino: KH8DX/MI is as of now active on 14283 around 2130z.

Sierra Leone: 6L1JR on 14,128 at 2100z. QSL to Box 877, Freetown

Andorra: At this moment PK4EX is very active on 14,125 kcs. around 1700z. QSL to Heilmel DL3VL

St Vincent: VP2BK and VP2SM reported on 14,130 at 2100z. QSL to Box 44, St. Vincent.

Baleares Islands: EA3OT will sign /EA6 on 20 a.s.b. early September. No fgs. or QTR available.

MP4AD: Win is now signing VP4DL and expects to be in the Bahamas for three years if you did not receive a QSL for this MP4 stint try a card to his VPT call via bureau or direct.

Rhiopeia: ET3USA on 14,110 is on almost daily now. No information on duration of stay. Try around 1900z if the band is open. QSL to KTCU. His signal is a big one from a 50-ft high beam from a 4000 feet elevation.

Marshall Islands: KX5BO on 14,228 at 1300z or late afternoon our local time.

Ascension Islands: Woody ZD9WZ is said to work 14,290 around 2000z. QSL to WATVO.

Tokelau and Tonga: ZMT and VR3 operation is rumoured to commence soon. Further information if it comes to hand. These prefixes are probably on the list of the Don Miller W9WVY DX-pedition.

MEMO TO THE DX MEN OF AUSTRALIA

October is VK / ZL / Oceania Contest month and this is your Contest. The phone section is on the week-end of the 2nd and 3rd; c.w. on the 9th and 10th. Full details appear in August "Amateur Radio," page 12.

Take part this year and help make the Contest a success. It cannot be if there are no VK stations on the air. Because of lack of activity in recent years, there has been a suggestion that this, Australia's own DX Contest, be discontinued. Don't let this happen—make DX contests and submit your log.

Georg Island: ZD9BC on 14,346 c.w./a.m. phone (yes, c.w.). Mostly at week-ends. Will be there for two years approx.

Guinea Republic: 7G1QV on 14,023 at 2030. QSL to W3ZBG

4X0TF, Taz of 4X4TF. It is reported may extend his operation into September. He can. Mode s.s.b. but no other information available.

Kilise Island: Pat VR15, 14,350, 1200z. Call on his fg.

Samoa: SW1AD just commenced on 14,010 approx and furiously working W's. This looks like the start of the Don Miller stint mentioned above.

Iodis, Cyprus: Near East and Iran Areas: VU2GW, VU2LE, VU2BP, 48TDA, 48TNE, 48TNN and many of the more rare U prefixes such as UG, UI, UJ, UO, UL7, UME, etc. are usually workable daily around 0130z at the c.w. end of 14 mcs.

Saudi Arabia: Remember HZ1AB with the S9 sig? The call is again being heard at various places on the 14 mc. band. Listen around 14,272, 14,333, 14,255, etc. from 1400 to 1700z hrs. Home call is KX2STZ.

Yemen: 4WIC works VK's on 14,345 approx. Calls on 14,103 sometimes.

New Hebrides: YJ8BG and YJ8XX are both active. The latter is VK2AEY. Try him on 14,243 around 0330z. The former is often on 21 with s.m. mode.

Maergarie Island: Trevor VK9TO skeds W land around 0400z. PZ 14,370.

Aden: V5SAWN Bill is working 14,280 around 1730z. QSL to Wg-Cmdr D Reid, C/-, Officers' Mess, Steamer Point, R.A.F., Aden. Several others are usually active from this place on other hands and modes.

QTH's

If you need a QSL from any of the following, the logs are at: WAGAK: P.O. Box 7388, G.P.O. New York 10,001 Send s.s.s.s.

ACBH, ACBH, ACBH/AC3, G3AWZ, VR1N, VK3BH, P8RY/FC, F8UC/FC, VK3DR, MP4TAX, MP4MAY, MP4MAY/12, HZ2AMS, YV0AA/AM, YV0AA, VK3BD, VK3KI, ZD9FBD, OH2AH/O, OH2YY/O, P8RHF/V8, VP1NY, HZ2AMS/24, HZ2AMS/24, YV8AJ, IIRB/IZ, ZD9L, T27Z, ZD9L, YV8AJ, VPS, KX65Z, YV8A, KJ3GJ/IZ, IIRB, CR3SP

SUMMARY

Those who follow the DX-peditions seem assured of getting their money's worth of the rare prefixes, as more adventurous souls are planning operations from new pastures. This is good incentive for overall Ham activity—good enough to buy promotion by commercial interests. Under the influence of progressive thinking the idea of classifying countries according to their boundaries, may slowly give way to a rather more pliable one, of classifying "areas" more may be heard of this later as the surely are running out of countries, as such.

This also, is the era of Award Hunting: some being awarded some on the former is the International AM Club (Award Hunters' Club), open to all who can show proof of having obtained firstly, 25 Awards, with Suckers added for progressive attainments. Several VK's should be eligible for this Award. Good Hunting and DX. TS, AJ.

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YOUTH RADIO CLUBS

We have all noticed, probably, that the great majority of our clubs are in secondary schools but nobody should take this as the only possibility. Y.R.C.s can be formed with any number of members anywhere. It is certainly easier to form one where a number of young people are grouped together in schools, Scout groups, Y.M.C.A., Police Boys' Clubs, Church Youth organisations, etc., but it is not essential.

Successful groups have been formed in many centres by merely getting the right publicity. Any instructor offering his services will soon find a meeting place. With a little tenacity he will find that the flow of used equipment, although irregular, can be kept going. Instructors are the vital element—youth is always needed if you have a few hours to spare.

Interesting news comes from Malaysia. Mr. C. C. Hiew, former Club Leader at the Secondary English School, Penang, Malaysia, has been sent to Teachers' College at Penang for further science training. He writes "Acting on the suggestion of a Teachers' College Radio Club, I have the good news that it is well under way. The physics lecturer has been quite enthusiastic and a committee has been formed. The club will run as an affiliate of the Science and Maths Society. Good luck to Mr. Hiew Club leaders who can help in any way from advice upwards are asked to write to Mr. C. C. Hiew, 11C, Hutton Lane, Penang, Malaysia.

The new science syllabi (bases if you prefer it) for 4th, 5th and 6th year students in N.S.W. High schools give a great deal more attention to Radio and Electronics than ever before—so much so, that many academically qualified teachers will need a new emphasis in part of their training and also immediate help in the schools that can ideally be given by those with practical qualifications in the electronics industry and that include Radio Amateurs. In N.S.W. the 4th year syllabus is in action this year and the new 5th and 6th year syllabus goes into use in 1966. I don't know the situation in other States but it should be worth while for the Divisions to investigate.

Safety precautions are important in any Y.R.C. Nobody at the elementary or junior level should be allowed to handle anything more lethal than a 9-volt battery. Intermedi-

ate Certificate candidates should only be trained in the use of a.c. mains if their parents request it and guarantee to supervise. All high voltage and a.c. points in club equipment must be protected from accidental contact. The Electricity Authority of N.S.W. issues a pamphlet, "The Electricity Safety," and Club Leaders should consider getting one of these for each member. Boys are apt to become over-confident and only their welfare but also that of the Y.R.S. must be considered. The proper treatment for electric shock should be taught and posted as a notice in the clubroom.

Congratulations to John SUL and Bruce BOR, public-spirited types who will lead a committee to handle VKS Y.R.S. activities while Bob SOD is overseas. The word is that they will expand Y.R.S. activities. L.C.s. have donated a course in basic electronics for a club member. If I am not already communitarian in VKS, fellows, let me have a little news later. All our officials are unpaid, so I realise it takes a good type of volunteer some spare time to organise at Division level or become a Club Instructor.

What a lot of interesting careers are waiting for all our Y.R.S. types! The Australian Broadcasting Commission is looking in September for technical training between 15 and 18, with Y.R.S. work a definite advantage. The Overseas Telecommunications Commission will be calling for trainees, in October, or November, for a three years' course of great opportunity.

Automation will never put you out of a job if you do courses like these.

The American system of Novice Licences (current for one year only) has a great deal to recommend it for this country. India and Israel have got it. The Russian training in radio for young people is highly organised for the obvious benefit to the country and offers privileges like those in America. In China, primary school children learnt the elements of electronics by sending simple radio sets. Can we be left far behind? The Federal Government's interest in Science Education could lead to an enlightened attitude to Novice Licences which, as an incentive towards higher qualifications, could do a great deal of good at practically no cost. Many of us in Y.R.S. work feel that the full possibilities of Y.R.S. cannot be realised without the incentive of a temporary Novice Licence for young people and special concessions to enable busy Science

Teachers to have a School Transmitting Station in action without a full A.O.C.P. (proper control and certain restrictions would still be necessary, of course.) Would Club Leaders and others please support this through your Division and also by telling Her SYA what you think?

Which one of my four readers will send some news this month? Ken 12KM.

★

NEW CALL SIGNS

MAY, 1966

- VK1AQ—N. McLeod, 83 Canberra Avenue, Forrest, A.C.T.
VK1ZCC—L. G. Carpenter, 92 Phillip Avenue, Downer, A.C.T.
VK1MR—D. H. B. Hovis, 7 Stow Place, Watson, A.C.T.
VK1ML—D. B. Hart, 215 Kingsway, Cronulla, Eastwood.
VK1ZD—H. K. Hovis, 488 Blandford Road, Eastwood.
VK2ZF—P. C. Goldstone, 134 Bingham Road, Hurville.
VK2ZFM—R. J. Shapcott, 33 Clark Road, Hernebay.
VK2ZG—G. T. Morrison, 20 Farm Street, Bowroa.
VK2ZHP—H. J. Fembie, "Breens," 89 Saunders Bay Road, Bayside.
VK2ZIN—P. W. Bursill, 47 Drumalbyn Road, Bellevue Hill.
VK2ZKN—C. A. A. Nieuwendyk, 238 Margaret Street, Orange.
VK2ZLN—J. T. Hart, Flat 6, 89 Addison Road, Manly.
VK2ZO—R. M. Smith, 6 Central Avenue, Eastwood.
VK2ZPV—V. G. Funch, jun.—C/ Four Square Street, Bayside.
VK2ZAR—R. Soule, 17 Jane Street, Randwick.
VK2JAX—J. Wall, 33 Calvert Street, North Geelong.
VK2JAF—R. Hodge, 83 Clay Street, Moorabbin.
VK2JAN—K. Talprakas, 118 Walpole Street, Kew.
VK2ZG—J. Munro, 75 Devonshire Road, Warranville.
VK2ZHU—R. B. Knaggs, Wanganella South.
VK2ZK—K. G. Moncur, 230 Union Road, Ascot Vale.
VK2ZNK—F. J. Heine, 73 Duff Parade, Lower Plenty.
VK2ZP—R. R. Hammer, 285 Bay Road, Cheltenham.
VK2ZPS—Dr. D. R. Blackman, 23 Mary Street, St. Kilda.
VK2ZQE—J. A. Evans, 6 Bon Vos Road, North Balwyn.
VK2ZRN—A. Harvey, 6 Orton Road, Elsternwick.
VK2ZSA—A. J. Skewes, 26 Sisely Avenue, Wangarua.
VK2ZTC—G. J. Seal, 3 Carlisle Crescent, Oakleigh.
VK2ZU—R. W. Jones, 13 Mendip Road, Reservoir.
VK2ZV—B. D. Judd, 25 Ralton Avenue, Glen Waverley.
VK2JX—K. C. Drummond, 17 Coronation Street, Berdon, Brabane.
VK2JY—R. C. Marchetti, 50 Leads Street, Gulliver, Townsville.
VK2ZGR—G. Rees, 23 Fuller Street, Windsor, Brabane.
VK2ZJ—J. G. H. Rowell, 287 Ellison Road, Geebung, Brabane.
VK2ZJ—R. F. W. Collins, 3 Dean Court, Claverdon, Melbourne.
VK2ZV—A. W. Snedden, 78 Reid Avenue, Heorville.
VK2ZAL—A. L. Purnell, 18-A Arnold Street, Underdale.
VK2ZKX—J. M. Ramsey, 34 Dunrobin Road, Bore.
VK2ZL—L. Price, 83 Robert Court, Para Hills.
VK2IC—G. Cole, Postal Address: P.O. Box 8, Katoorille Station Address: Trafalgar, W.A.
VK2ZBV—R. E. C. Varday, 79 Stubbs Terrace, Daglish.
VK2ZCP—B. T. Pagoda, 11 Sydenham Street, Rivervale.
VK2ZCT—A. J. C. Cook, Postal Address: Box 54, P.O., Kellerberrin, Station Address: Great Eastern Highway, Kellerberrin.
VK2ZFC—J. G. Iakre, 26 Boundary Road, St. James.
VK2ZFP—G. C. F. Ruffner, 234 Ninth Avenue, Inglewood.
VK2ZFP—R. V. Parkes, 21 Angelo Street, South Perth.
VK2JAM—A. J. Dunn, 725 Dempsey Place, Rapid Creek, Darwin.
VK2ZNB—B. D. Bannister, C/- A.W.A., Lae, T.F.N.G.

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Sub-Editor: Don Grantley, W1A-12022.

[Your new scribe needs no introduction, only possibly to the new members of the S.W.L. movement, for the information, he has been an outstanding S.W.L. for some considerable time, so with the valuable experience gained during that time, will be a very competent person to compile our page each month. I would like to take this opportunity to thank all those who assisted me during my term and trust that they will continue to give the same co-operation to this able member—Chas. L2311.]

Eight years ago I sat in the shack at Holbrook taking part in the R.D. Contest. The equipment which I used was a battered old R102, the antenna was a long wire. I did not exactly set the world on fire with my effort, but it was connected to Amateur Radio after a period of six years' absence. Since that time I have met many S.W.L.'s and have been able to help them in their ranks. Any success I have had is due to the help and encouragement I received from such stalwarts as Eric Trebilcock, Frank Hise, Dave Duff and many others in the early part of my listening career. To all these chaps I take this opportunity to encourage them to this endeavor before the end of each month.

For some time my good friend Chas. Abernethy has been writing this page with your help and doing a superb job. I am sure he feels that he would like a spell, and I have taken over this task which cannot be done properly without the help of a good S.W.L. who is connected with SWLing as a hobby. So chaps, I will be pleased to hear from old friends and new at my new address in the next month before the end of each month. N.S.W. listeners, however, would you please send all bulletin notes to Chas. Abernethy, as he will be doing this page slightly this month, but will return to normal next issue.

It is interesting to note in Monitor, official magazine of the I.B.W.L., that S.W.L.'s are held in high esteem by KUNZI and members of the Michigan South-eastern Radio Club, who are in the habit of sending letters to listeners on 160 metres. Not that it concerns us here I guess, but stations in the Detroit area are heard on 1600 or 1830 mcs.

OVERSEAS NEWS EXTRACTS

OSUDN is the station of the Mid-Warwickshire A.R.S. at Leamington Spa. Station is active on 160 metres and they want information, good, accurate reports that is, from any overseas stations. Congratulations to Ezeki Akersten from the VK S.W.L., during April he received two confirmations to take him to 361 confirmed, making him we believe the first in the world to reach the 300 mark on the top S.W.L. in the world. Having trouble getting QSL's from UBS, then L.R.C. to Joe Kleinmann. M. D. B. Hukarukoro, Darine, I.B.S.B. would help with QSL's. DL, DM, DU, USAOQ, DN, DMM or VY.

News from SVI to the effect that there is much to be done in the field of the only licensed Hams are in the SVIAA to SVI9D group. Don't waste a report on any others as they are not wanted. Reports returned to you. On the DX front overseas it is to be noted that 10 metres is on the improve, and openings to many African and Asian countries are reopening. Some reports show, too, that this band is a source of good DX to the European S.W.L. That should suit the needs of the VK S.W.L. as it is a banding line for some more countries. Thanks to "Monitor" for the foregoing notes.

AUSTRALIAN NOTES

Most of this information has been passed on to me by Chas., and has been answered by him. For this month only, I am giving you this section of news as it is not possible without breaking it up into States, however, as stated previously, we will return to normal next issue.

First letter is from Noel Harrison, L3101, of Sunshine. Cold wx has hindered his listening, but reception of a VY has been received. Noel has written to Allan L6099, who mentions that his latest confirmation 17FVWJ has never contacted a VK. He is heard on 20 metres direct to 4420 Kcs, at 8700 is heard on 160 metres. Allan gives an excellent list of countries heard. And Geoff L6020 tells us he has the 30-foot wind-up lorry cabled with north-

ing on top. See if you can confiscate a copy of the CQ Antenna issue of 1968 also 1888, you may find a small beam in one of them. And whilst on the VK8 group, we have Bryan LK313 with some good listings—CT1, YL, LO on 30 to name a few.

Back to VK5 for a letter from Alan L5005 who found the bands quiet with DX to North America each week-end and odd openings to South America and South Africa. A letter of his QSL's received, including PJ, YS, OA, TI, to name a few. A long and interesting letter from Greg of Newcastle, New South Wales, most interesting letters I have ever handed in Amateur Radio. I, too, will answer you in person.

From Ray L3287 comes his additions to the ladder, and reports of a very fine batch of QSL's. SWR, FZ, HA, CRG, Collin 1188 of Mooragui, has a 20 metre dipole in operation, and is very pleased with the results. From Warwick L2111 word comes of new QSL's to hand from FWS, ZL1V1 and QDB8, another five confirmed will take him into the 100 Group.

And whilst on the subject of VK3, Chas. has passed me a screed from Eric L3043. One day I will pick up one of Eric's letters and read that Footscray beat the Magpies . . . it can happen. Chas. has also passed me a letter summarizing Eric's notes, he has 37 QSL's to hand from VK1, 3, 5 and ZL on 15 mcs. which is a good effort, and one which not many of us can get near. How about it Chaps? Inwards QSL's DU8B, FBSWW, JAIDMX on 15 mcs. K7L, K7M, K7N, K7O, K7P, K7Q, K7R, K7S, K7T, K7U, K7V, K7W, K7X, K7Y, K7Z, K7AA, K7AB, K7AC, K7AD, K7AE, K7AF, K7AG, K7AH, K7AI, K7AJ, K7AK, K7AL, K7AM, K7AN, K7AO, K7AP, K7AQ, K7AR, K7AS, K7AT, K7AU, K7AV, K7AW, K7AX, K7AY, K7AZ, K7BA, K7BB, K7BC, K7BD, K7BE, K7BF, K7BG, K7BH, K7BI, K7BJ, K7BK, K7BL, K7BM, K7BN, K7BO, K7BP, K7BQ, K7BR, K7BS, K7BT, K7BU, K7BV, K7BW, K7BX, K7BY, K7BZ, K7CA, K7CB, K7CC, K7CD, K7CE, K7CF, K7CG, K7CH, K7CI, K7CJ, K7CK, K7CL, K7CM, K7CN, K7CO, K7CP, K7CQ, K7CR, K7CS, K7CT, K7CU, K7CV, K7CW, K7CX, K7CY, K7CZ, K7DA, K7DB, K7DC, K7DD, K7DE, K7DF, K7DG, K7DH, K7DI, K7DJ, K7DK, K7DL, K7DM, K7DN, K7DO, K7DP, K7DQ, K7DR, K7DS, K7DT, K7DU, K7DV, K7DW, K7DX, K7DY, K7DZ, K7EA, K7EB, K7EC, K7ED, K7EE, K7EF, K7EG, K7EH, K7EI, K7EJ, K7EK, K7EL, K7EM, K7EN, K7EO, K7EP, K7EQ, K7ER, K7ES, K7ET, K7EU, K7EV, K7EW, K7EX, K7EY, K7EZ, K7FA, K7FB, K7FC, K7FD, K7FE, K7FF, K7FG, K7FH, K7FI, K7FJ, K7FK, K7FL, K7FM, K7FN, K7FO, K7FP, K7FQ, K7FR, K7FS, K7FT, K7FU, K7FV, K7FW, K7FX, K7FY, K7FZ, K7GA, K7GB, K7GC, K7GD, K7GE, K7GF, K7GG, K7GH, K7GI, K7GJ, K7GK, K7GL, K7GM, K7GN, K7GO, K7GP, K7GQ, K7GR, K7GS, K7GT, K7GU, K7GV, K7GW, K7GX, K7GY, K7GZ, K7HA, K7HB, K7HC, K7HD, K7HE, K7HF, K7HG, K7HH, K7HI, K7HJ, K7HK, K7HL, K7HM, K7HN, K7HO, K7HP, K7HQ, K7HR, K7HS, K7HT, K7HU, K7HV, K7HW, K7HX, K7HY, K7HZ, K7IA, K7IB, K7IC, K7ID, K7IE, K7IF, K7IG, K7IH, K7II, K7IJ, K7IK, K7IL, K7IM, K7IN, K7IO, K7IP, K7IQ, K7IR, K7IS, K7IT, K7IU, K7IV, K7IW, K7IX, K7IY, K7IZ, K7JA, K7JB, K7JC, K7JD, K7JE, K7JF, K7JG, K7JH, K7JI, K7JJ, K7JK, K7JL, K7JM, K7JN, K7JO, K7JP, K7JQ, K7JR, K7JS, K7JT, K7JU, K7JV, K7JW, K7JX, K7JY, K7JZ, K7KA, K7KB, K7KC, K7KD, K7KE, K7KF, K7KG, K7KH, K7KI, K7KJ, K7KK, K7KL, K7KM, K7KN, K7KO, K7KP, K7KQ, K7KR, K7KS, K7KT, K7KU, K7KV, K7KW, K7KX, K7KY, K7KZ, K7LA, K7LB, K7LC, K7LD, K7LE, K7LF, K7LG, K7LH, K7LI, K7LJ, K7LK, K7LL, K7LM, K7LN, K7LO, K7LP, K7LQ, K7LR, K7LS, K7LT, K7LU, K7LV, K7LW, K7LX, K7LY, K7LZ, K7MA, K7MB, K7MC, K7MD, K7ME, K7MF, K7MG, K7MH, K7MI, K7MJ, K7MK, K7ML, K7MN, K7MO, K7MP, K7MQ, K7MR, K7MS, K7MT, K7MU, K7MV, K7MW, K7MX, K7MY, K7MZ, K7NA, K7NB, K7NC, K7ND, K7NE, K7NF, K7NG, K7NH, K7NI, K7NJ, K7NK, K7NL, K7NM, K7NN, K7NO, K7NP, K7NQ, K7NR, K7NS, K7NT, K7NU, K7NV, K7NW, K7NX, K7NY, K7NZ, K7OA, K7OB, K7OC, K7OD, K7OE, K7OF, K7OG, K7OH, K7OI, K7OJ, K7OK, K7OL, K7OM, K7ON, K7OO, K7OP, K7OQ, K7OR, K7OS, K7OT, K7OU, K7OV, K7OW, K7OX, K7OY, K7OZ, K7PA, K7PB, K7PC, K7PD, K7PE, K7PF, K7PG, K7PH, K7PI, K7PJ, K7PK, K7PL, K7PM, K7PN, K7PO, K7PP, K7PQ, K7PR, K7PS, K7PT, K7PU, K7PV, K7PW, K7PX, K7PY, K7PZ, K7QA, K7QB, K7QC, K7QD, K7QE, K7QF, K7QG, K7QH, K7QI, K7QJ, K7QK, K7QL, K7QM, K7QN, K7QO, K7QP, K7QQ, K7QR, K7QS, K7QT, K7QU, K7QV, K7QW, K7QX, K7QY, K7QZ, K7RA, K7RB, K7RC, K7RD, K7RE, K7RF, K7RG, K7RH, K7RI, K7RJ, K7RK, K7RL, K7RM, K7RN, K7RO, K7RP, K7RQ, K7RR, K7RS, K7RT, K7RU, K7RV, K7RW, K7RX, K7RY, K7RZ, K7SA, K7SB, K7SC, K7SD, K7SE, K7SF, K7SG, K7SH, K7SI, K7SJ, K7SK, K7SL, K7SM, K7SN, K7SO, K7SP, K7SQ, K7SR, K7SS, K7ST, K7SU, K7SV, K7SW, K7SX, K7SY, K7SZ, K7TA, K7TB, K7TC, K7TD, K7TE, K7TF, K7TG, K7TH, K7TI, K7TJ, K7TK, K7TL, K7TM, K7TN, K7TO, K7TP, K7TQ, K7TR, K7TS, K7TT, K7TU, K7TV, K7TW, K7TX, K7TY, K7TZ, K7UA, K7UB, K7UC, K7UD, K7UE, K7UF, K7UG, K7UH, K7UI, K7UJ, K7UK, K7UL, K7UM, K7UN, K7UO, K7UP, K7UQ, K7UR, K7US, K7UT, K7UU, K7UV, K7UW, K7UX, K7UY, K7UZ, K7VA, K7VB, K7VC, K7VD, K7VE, K7VF, K7VG, K7VH, K7VI, K7VJ, K7VK, K7VL, K7VM, K7VN, K7VO, K7VP, K7VQ, K7VR, K7VS, K7VT, K7VU, K7VV, K7VW, K7VX, K7VY, K7VZ, K7WA, K7WB, K7WC, K7WD, K7WE, K7WF, K7WG, K7WH, K7WI, K7WJ, K7WK, K7WL, K7WM, K7WN, K7WO, K7WP, K7WQ, K7WR, K7WS, K7WT, K7WU, K7WV, K7WW, K7WX, K7WY, K7WZ, K7XA, K7XB, K7XC, K7XD, K7XE, K7XF, K7XG, K7XH, K7XI, K7XJ, K7XK, K7XL, K7XM, K7XN, K7XO, K7XP, K7XQ, K7XR, K7XS, K7XT, K7XU, K7XV, K7XW, K7XX, K7XY, K7XZ, K7YA, K7YB, K7YC, K7YD, K7YE, K7YF, K7YG, K7YH, K7YI, K7YJ, K7YK, K7YL, K7YM, K7YN, K7YO, K7YP, K7YQ, K7YR, K7YS, K7YT, K7YU, K7YV, K7YW, K7YX, K7YY, K7YZ, K7ZA, K7ZB, K7ZC, K7ZD, K7ZE, K7ZF, K7ZG, K7ZH, K7ZI, K7ZJ, K7ZK, K7ZL, K7ZM, K7ZN, K7ZO, K7ZP, K7ZQ, K7ZR, K7ZS, K7ZT, K7ZU, K7ZV, K7ZW, K7ZX, K7ZY, K7ZZ.

Whilst in Melbourne we have a long letter from Harry Marti who over the years has done such a fine job with the young chaps. Thanks very so much for the information you keep up the good work. . . . From Greg Earl comes word that he has received QSL's from UBS, K7L, K7M, K7N, K7O, K7P, K7Q, K7R, K7S, K7T, K7U, K7V, K7W, K7X, K7Y, K7Z, K7AA, K7AB, K7AC, K7AD, K7AE, K7AF, K7AG, K7AH, K7AI, K7AJ, K7AK, K7AL, K7AM, K7AN, K7AO, K7AP, K7AQ, K7AR, K7AS, K7AT, K7AU, K7AV, K7AW, K7AX, K7AY, K7AZ, K7BA, K7BB, K7BC, K7BD, K7BE, K7BF, K7BG, K7BH, K7BI, K7BJ, K7BK, K7BL, K7BM, K7BN, K7BO, K7BP, K7BQ, K7BR, K7BS, K7BT, K7BU, K7BV, K7BW, K7BX, K7BY, K7BZ, K7CA, K7CB, K7CC, K7CD, K7CE, K7CF, K7CG, K7CH, K7CI, K7CJ, K7CK, K7CL, K7CM, K7CN, K7CO, K7CP, K7CQ, K7CR, K7CS, K7CT, K7CU, K7CV, K7CW, K7CX, K7CY, K7CZ, K7DA, K7DB, K7DC, K7DD, K7DE, K7DF, K7DG, K7DH, K7DI, K7DJ, K7DK, K7DL, K7DM, K7DN, K7DO, K7DP, K7DQ, K7DR, K7DS, K7DT, K7DU, K7DV, K7DW, K7DX, K7DY, K7DZ, K7EA, K7EB, K7EC, K7ED, K7EE, K7EF, K7EG, K7EH, K7EI, K7EJ, K7EK, K7EL, K7EM, K7EN, K7EO, K7EP, K7EQ, K7ER, K7ES, K7ET, K7EU, K7EV, K7EW, K7EX, K7EY, K7EZ, K7FA, K7FB, K7FC, K7FD, K7FE, K7FF, K7FG, K7FH, K7FI, K7FJ, K7FK, K7FL, K7FM, K7FN, K7FO, K7FP, K7FQ, K7FR, K7FS, K7FT, K7FU, K7FV, K7FW, K7FX, K7FY, K7FZ, K7GA, K7GB, K7GC, K7GD, K7GE, K7GF, K7GG, K7GH, K7GI, K7GJ, K7GK, K7GL, K7GM, K7GN, K7GO, K7GP, K7GQ, K7GR, K7GS, K7GT, K7GU, K7GV, K7GW, K7GX, K7GY, K7GZ, K7HA, K7HB, K7HC, K7HD, K7HE, K7HF, K7HG, K7HH, K7HI, K7HJ, K7HK, K7HL, K7HM, K7HN, K7HO, K7HP, K7HQ, K7HR, K7HS, K7HT, K7HU, K7HV, K7HW, K7HX, K7HY, K7HZ, K7IA, K7IB, K7IC, K7ID, K7IE, K7IF, K7IG, K7IH, K7II, K7IJ, K7IK, K7IL, K7IM, K7IN, K7IO, K7IP, K7IQ, K7IR, K7IS, K7IT, K7IU, K7IV, K7IW, K7IX, K7IY, K7IZ, K7JA, K7JB, K7JC, K7JD, K7JE, K7JF, K7JG, K7JH, K7JI, K7JJ, K7JK, K7JL, K7JM, K7JN, K7JO, K7JP, K7JQ, K7JR, K7JS, K7JT, K7JU, K7JV, K7JW, K7JX, K7JY, K7JZ, K7KA, K7KB, K7KC, K7KD, K7KE, K7KF, K7KG, K7KH, K7KI, K7KJ, K7KK, K7KL, K7KM, K7KN, K7KO, K7KP, K7KQ, K7KR, K7KS, K7KT, K7KU, K7KV, K7KW, K7KX, K7KY, K7KZ, K7LA, K7LB, K7LC, K7LD, K7LE, K7LF, K7LG, K7LH, K7LI, K7LJ, K7LK, K7LM, K7LN, K7LO, K7LP, K7LQ, K7LR, K7LS, K7LT, K7LU, K7LV, K7LW, K7LX, K7LY, K7LZ, K7MA, K7MB, K7MC, K7MD, K7ME, K7MF, K7MG, K7MH, K7MI, K7MJ, K7MK, K7ML, K7MN, K7MO, K7MP, K7MQ, K7MR, K7MS, K7MT, K7MU, K7MV, K7MW, K7MX, K7MY, K7MZ, K7NA, K7NB, K7NC, K7ND, K7NE, K7NF, K7NG, K7NH, K7NI, K7NJ, K7NK, K7NL, K7NM, K7NN, K7NO, K7NP, K7NQ, K7NR, K7NS, K7NT, K7NU, K7NV, K7NW, K7NX, K7NY, K7NZ, K7OA, K7OB, K7OC, K7OD, K7OE, K7OF, K7OG, K7OH, K7OI, K7OJ, K7OK, K7OL, K7OM, K7ON, K7OO, K7OP, K7OQ, K7OR, K7OS, K7OT, K7OU, K7OV, K7OW, K7OX, K7OY, K7OZ, K7PA, K7PB, K7PC, K7PD, K7PE, K7PF, K7PG, K7PH, K7PI, K7PJ, K7PK, K7PL, K7PM, K7PN, K7PO, K7PP, K7PQ, K7PR, K7PS, K7PT, K7PU, K7PV, K7PW, K7PX, K7PY, K7PZ, K7QA, K7QB, K7QC, K7QD, K7QE, K7QF, K7QG, K7QH, K7QI, K7QJ, K7QK, K7QL, K7QM, K7QN, K7QO, K7QP, K7QQ, K7QR, K7QS, K7QT, K7QU, K7QV, K7QW, K7QX, K7QY, K7QZ, K7RA, K7RB, K7RC, K7RD, K7RE, K7RF, K7RG, K7RH, K7RI, K7RJ, K7RK, K7RL, K7RM, K7RN, K7RO, K7RP, K7RQ, K7RR, K7RS, K7RT, K7RU, K7RV, K7RW, K7RX, K7RY, K7RZ, K7SA, K7SB, K7SC, K7SD, K7SE, K7SF, K7SG, K7SH, K7SI, K7SJ, K7SK, K7SL, K7SM, K7SN, K7SO, K7SP, K7SQ, K7SR, K7SS, K7ST, K7SU, K7SV, K7SW, K7SX, K7SY, K7SZ, K7TA, K7TB, K7TC, K7TD, K7TE, K7TF, K7TG, K7TH, K7TI, K7TJ, K7TK, K7TL, K7TM, K7TN, K7TO, K7TP, K7TQ, K7TR, K7TS, K7TT, K7TU, K7TV, K7TW, K7TX, K7TY, K7TZ, K7UA, K7UB, K7UC, K7UD, K7UE, K7UF, K7UG, K7UH, K7UI, K7UJ, K7UK, K7UL, K7UM, K7UN, K7UO, K7UP, K7UQ, K7UR, K7US, K7UT, K7UU, K7UV, K7UW, K7UX, K7UY, K7UZ, K7VA, K7VB, K7VC, K7VD, K7VE, K7VF, K7VG, K7VH, K7VI, K7VJ, K7VK, K7VL, K7VM, K7VN, K7VO, K7VP, K7VQ, K7VR, K7VS, K7VT, K7VU, K7VV, K7VW, K7VX, K7VY, K7VZ, K7WA, K7WB, K7WC, K7WD, K7WE, K7WF, K7WG, K7WH, K7WI, K7WJ, K7WK, K7WL, K7WM, K7WN, K7WO, K7WP, K7WQ, K7WR, K7WS, K7WT, K7WU, K7WV, K7WW, K7WX, K7WY, K7WZ, K7XA, K7XB, K7XC, K7XD, K7XE, K7XF, K7XG, K7XH, K7XI, K7XJ, K7XK, K7XL, K7XM, K7XN, K7XO, K7XP, K7XQ, K7XR, K7XS, K7XT, K7XU, K7XV, K7XW, K7XX, K7XY, K7XZ, K7YA, K7YB, K7YC, K7YD, K7YE, K7YF, K7YG, K7YH, K7YI, K7YJ, K7YK, K7YL, K7YM, K7YN, K7YO, K7YP, K7YQ, K7YR, K7YS, K7YT, K7YU, K7YV, K7YW, K7YX, K7YY, K7YZ, K7ZA, K7ZB, K7ZC, K7ZD, K7ZE, K7ZF, K7ZG, K7ZH, K7ZI, K7ZJ, K7ZK, K7ZL, K7ZM, K7ZN, K7ZO, K7ZP, K7ZQ, K7ZR, K7ZS, K7ZT, K7ZU, K7ZV, K7ZW, K7ZX, K7ZY, K7ZZ.

From Ian Woodman L3006 comes a report that 40 members took part in a tour of the Herald-Sun newspaper building and a tour of the city of Melbourne. The tour was a daily paper. The lecturer for the July general meeting was from the fire brigade and spoke of communications in relation to fire fighting. The amount of gear brought along to the July radio construction night was down on previous nights. Ian requests from chaps who want gear adjusted at these nights that they contact the instructor beforehand so that the correct type of test gear is available to them. Ian also asks for advice on where you, what are you doing?

From the S.W.L.'s who are active but do not send in a report we need your support at this vital stage in the life of our group. All letters will be answered and the more interesting information I can collect from our own chaps the less I have to import from overseas sources.

Now for a final on the personal side, I have renewed my acquaintance with many of my radio friends over the past few months. I have been helped by letter, some by telephone and others in person. Let me, however, place on record my personal thanks to the firm of my old pal Smythe. Over the years he and I worked together behind the scenes on many an occasion, and it was only a few weeks ago I learned of his passing. I wish to put our friendship and help, Barney, you will be ever remembered at L3022.

L3022 came in the air after a break of six months during July, still using the AR7, and an antenna which was only 4 feet from the ground and tied to a tree. The DX was staggering, almost no signal logging was done, it was evident that the new QTH at Hazelbrook when coupled with the old V beams will put 3022 back in business once again.

CARD SWAPPERS

I have a list of S.W.L.'s anxious to swap cards, and whilst we all have our own opinions on this subject, I pass them on to you who may be interested. I have a list of Racine, 35 Morrison St., Dunelton, Conn. KKK8962, Roy Furrow Box 183, Brooklyn, Conn. WH2WT Rick Shaper, 35 Elm Drive, Roslyn, New York and WAAWV Mick Wile-

lock, Jun. 6809 Chambers Ave. Cleveland, Ohio 44105 Cuyahoga County U.S.A. Remember me that Ron Hughes, 214 Bishopsgate, Bank Chambers, London, E.C.2, is compiling a list of monthly winners. I would like to know nothing more other than this note which appears in the current "Monitor".

COMMERCIAL DX

Whilst these interests are the sworn enemy of Amateur Radio, there are some which warrant a mention, one of these is the giant hydro-electric, powered station at Quito Ecuador. This station is operated in 100 kHz bands and for anybody who needs an HC QSL they will confirm all reports 100% via Box 891 Quito.

OVERSEAS LADDER

As mentioned earlier Ezeki Eriksson, of Sweden, heads the list and the Eric Trebilcock runs second. Countries are running out for these chaps, and with the world situation as it is, we wonder if our boys will ever breach the asp. It is one thing to hear the DX, another to get the report.

S.W.L. COMMENT

Much has been said and written in the past re the low percentage of returns S.W.L.'s are receiving in return for their cards. There is no doubt that many of the non-returns are due to the attitude of the Amateur receiving them, however, there are many other reasons to be taken into consideration and a major one is the time that many of us just don't think hard enough when we prepare a card. I have in the past been one of the worst offenders in this category, and I doubt some of you, too, have been guilty of sending out reports that represent no value whatsoever to the chap who is on the receiving end, and believe me most of the chaps want a report that is of some use to them. The Russian Amateur, however, seems to QSL to anything and everything in fact, and has a 95% return from stations with any of the U prefixes, all of which I send direct to Box 85, Moscow. In passing I note the fact that UQ4AR is confirmed. This card is confirming that S.W.L. . . . heard my etc.

No chaps that winds it up for this month, I remember that we would like to hear of you doing it. And in this page may remain truly representative of the Australian Listeners. To those chaps who have been detrimental to the cause of our hobby, or to our section of the hobby, remember that it is up to us to make our s.w.l groups what we want them to be. It is most important that we discuss any difficulties which may arise with our Federal Councillor in order that he may assist us, after all that is the reason why he is in office. Best of luck and good DX. T3, L3322 Don.

S.W.L. DX LADDER

		Countries	Zones	W	
		Conf.	Hrd.	States	
E	Trebilcock	286	282	40	80
P	Drew	100	250	27	30
D	Grantley	127	235	39	33
A	Westcott	103	150	34	21
L	James	90	191	23	15
K	Corry	95	149	95	95
W	Smith	95	183	30	7
M	Hilliard	89	341	23	16
W	G. Earl	89	263	33	18
N	Harrison	88	123	28	38
A	Rafferty	81	161	16	9
B	Macintosh	78	123	123	123
T	Prosser	74	154	12	8
B	Corbin	38	34	8	—

AR.R.L.

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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

FEDERAL EXECUTIVE MEETING, 1945 JUNE, 1965

Arising from the previous meeting, advice had been received from the Customs Department that duty free admission of a narrow band filter had been granted. Reference V.Y.S. matters, it was agreed that all out-of-pocket expenses would be reimbursed to the Federal Co-ordinator, Rex Black, and the Activities Manager was to inform him to this effect, also conveying to him the need to take on less of the detailed organising work in N.S.W. and more of the overall co-ordination. Certificates would now be standard throughout the Commonwealth, and the Co-ordinator was at the same time granted an imprint of £10. The Business Manager reported that the "QST" subscription fund was now self-supporting and new subscriptions were continuing. The Communications Manager reported that he and Activities Manager had reviewed the R.D. rules and minor changes made. He had also prepared an article for publication in "A.R." suggesting major changes which would be shortly sent for publication. Mr. Ken Pincoff was present from the VK3 Division to inform members of proposed changes to "A.R." and to discuss housing of P.E. equipment. The major points discussed were the proposed changes to the Handbook and the detailed technical aspects of a.s.b. power measurement.

FEDERAL EXECUTIVE MEETING, 7th JULY, 1965

Correspondence was received after confirmation of the minutes of previous meeting. The major items were letters confirming that reciprocal licensing arrangements had been concluded with the U.S.A. and the U.K. for the use of frequencies on 420-450 mcs, the information that Maj-Gen Dougherty would open the 1965 R.D. Contest. Information on the activities of the VK3 Division for special moonbounce experiments, and letters of appreciation from several Divisions for early receipt of Convention Minutes.

The Secretary reported further discussions with the P.M.G. re a.s.b. power measurement and several other points which required clarification. The Activities Manager explained some difficulties in obtaining N.F.D. Contest results and the action he proposed taking to rectify. A lengthy discussion took place on the proposals re the Handbook to be submitted to the P.M.G. for which purpose, Mr. Owen (the VK3 Councillor) had been asked to attend and report. Further details were to be requested from VK3 re their proposal for a free A.O.C.F. course for the School of Pacific Administration before any action taken. The question of future I.T.U. representation and documents dealing with this matter were to be requested from the present representative. Under a full statement of expenses had been received from the Y.R.S. Co-ordinator it was resolved to forward him an advance payment of £25.

I.A.R.U. CALENDAR, JUNE, 1965

It was reported that the I.A.R.U. came into existence 25 years ago on April 17, 1940 when 23 nations, including Australia, formed the Union.

As most philatelistically-minded Amateurs will know, the I.T.U. year is celebrated every 19th Anniversary and will top off celebrations with a Plenipotentiary meeting in September. This meeting will be a special administrative meeting with several very important variations to its structure, but as it is not intended to deal with regulatory matters pertinent to Amateur Radio, official observers will not be invited to attend. It may be decided at this meeting when the next frequency allocations convention will be held. The members are mainly I.T.U. employees, will hold its third Amateur Radio Convention between September 17 and 20, and it is hoped this Club will be able to make a very good public relations work relating to Amateur Radio with national delegates who attend the I.T.U. Congress.

From the 4th-9th March this year, the Region 11 section of the I.A.R.U. met in Lima, Peru, to discuss Amateur matters. One major item was the proposed Amateur Radio Convention (Cuba), was still in existence as an application

had been received at h.q. for the A.N.R.A.C. (Asociación Nacional de Radioaficionados de Cuba) to represent Cuba in future. This will be further looked at by the I.A.R.U. and a vote if necessary will be taken of member societies. The Region 1 Executive of the I.A.R.U. held a meeting in Yugoslavia on July 10-11, with a view to a Region 1 conference in May, 1966, when arrangements of matters of concern to Amateurs will be discussed.

It was announced that the following countries had now reciprocal licensing arrangements with the U.S.A.: Australia, Belgium, Bolivia, Canada (under an earlier agreement), Costa Rica, Dominican Republic, Ecuador and Portugal. The first operating permit granted under the new agreement went to Mrs. Grace Glorioso TIZMAG, who is living in Louisiana.

It is planning to report that on the 12th February, 1965, through the stalwart work of the A.R.A.L., Lebanon restored operating privileges to 18 Amateurs.

Newest call sign change goes to the Cayman Islands where former VP6 licensees now sign ZP1 calls.

Due to previous voting proposals, two new societies have been admitted to membership. These are Radio Society of Zambia (R.S.Z.) and Bahamas Amateur Radio Society (B.A.R.S.). The W.I.A. joins with the I.A.R.U. in wishing them every success in the future.

As is becoming all too usual these days, this Calendar contains a list of stations monitored by the I.F.R.S. by the information band from October, 1964, to March, 1965. Stations that may possibly be heard in Australia are shown below:-

Poland, broadcasting	3500, 3600, 3609
France, broadcasting	3500
URS, fixed, Al	7006, 7019, 7034
Karachi, broadcasting	7059
Pakistan	7059
Peking	7034, 7060, 7080
KU 30, fixed Al	7034
Calcutta, broadcasting	7034, 7073
RVZ 73, fixed Al	7074
Indonesia, broadcasting	7074
Moscow	7074, 14,300
Tokyo	7074
Vatican	14,208
Cambridge	14,308
B.M.E. fixed, Al	14,308

Any VK3 Amateurs hearing these stations or others not listed should obtain a report sheet from their Divisional Secretary, who should forward them to Federal Executive for action. Full details, as contained on the sheet, should be obtained.

The admission of a proposed new member to the I.A.R.U. was voted on by the Executive, and in view of the information supplied by h.q., it was resolved to vote for the admission of the Nigerian Amateur Radio Society (N.A.R.S.). A large vote sheet has been forwarded to the I.A.R.U. on behalf of the W.I.A.

FEDERAL CONSTITUTION ALTERATION

Federal Executive, on behalf of the Federal Council of the Wireless Institute of Australia, hereby gives notice that it is intended to alter the Federal Constitution of the Wireless Institute of Australia 1947 as follows

- by adding the following words at the end of Clause 3 thereof: "and to form a Company to take over the real and personal property belonging to and to have an indemnity against all or any of the liabilities of the Institute and to pay the costs charged and to be paid and to transfer all the assets of the Institute to such Company"
- by adding a new Clause 57a after Clause 67 thereof as follows: "57a. On the incorporation of the Company referred to in Clause 3 of this Constitution, the Institute shall be dissolved and the assets of the Institute shall be sold and transferred to the said Company in consideration of the said Company indemnifying the Institute, the Council, the Executive and the members against all costs, expenses and liabilities."

Any member of the Institute not in agreement with the proposed alterations should notify his disapproval with the reasons to the Federal Executive within 14 days of the publication of this proposal.

I.T.U. FUND

As at the 8th August, contributions to the fund, as a percentage of the target set at the Sydney Convention are as follows:-

VK3	22%	VK5	54%
VK3	30%	VK4	10%
VK4	10%	VK4	10%

These figures do not necessarily represent all monies collected in Divisions but only those received by the Federal Treasurer. Please keep those contributions flowing to your Division to assist in protecting your privileges.

—Bill Mitchell, VKUMU, Federal Comms. Manager.

FEDERAL QSL BUREAU

Watch out for Low WEWBY who is going on a DX-expedition to British Honduras and will be located at Belize. Call sign to be used and date of operation not yet known. Low will use 14 mc. mainly and will set aside one night exclusively for VK/ZL calls.

Mention was made in this column over 18 months ago of a pending stay in VK by Rex Glen ZLAAAS. Unforeseen circumstances have delayed his arrival, but he will definitely arrive in Melbourne on 28th September. He will remain here for three years and hopes to be located in Brighton area. He will take out a VK call sign.

Jack WESPO is also due to arrive in Sydney on a vacation tour with his XYL on October 7. Jack spent some time out here during his work period and married a VK4 girl. Here he plans to visit VK4 and during his stay. He is connected with Panam and further details of his movements may be had from VK2PU.

Details and specimen copy of the Vienna Award have been received from OEIUI, P.O. Box 100, Vienna 10/107. Further information can be had from OEIUI or from this Bureau.

The Hon. Sec. of the Amateur Radio Mobile Club forwards information on a Mobile DX Activity Bulletin on 4th September from 0800 to 2000 G.M.T. Details of suggested frequencies, awards, etc., may be had from this Bureau.

—Ray Jones, VK3RJ, Manager.

NEW SOUTH WALES

It has been a generally quiet time in the VK3 Division during July. The first real taste of winter saw that John VK3JH has been collecting names of Amateurs who are interested in "Call Letter Licence Plates." So far he has had 106 positive replies, but he hopes the best is yet to come. If you are interested would you contact John VK3JH, C/- Wireless Institute Centre, Crows Nest.

The addition of a 50 watt 148 m. unit at the Divisional station VK3WV will be around 2 metre channel for use on the broadcast band. At present there is an s.m. signal on 145.5 mcs. being used by the Division. Incorporated in the h.f. coverage as long skip is often on the 40 metre channel. For those who miss it on Sunday night, the Division will hear a repeat on Monday night at 0900 G.M.T. from the Hunter Branch station VK3IAWK on 100, 50, 40 and 2 metres.

On 24th September, Dr. Ted Whitby, VK3ACD, will be lecturing to the General Meeting of the Wireless Institute Centre. His subject will be "Radio Crime" and the part they play in point-to-point circuits. Interstate and overseas visitors are always welcome.

On the Educational side of Divisional activities, Cos VK3ER, who is handling the instruction with the classes at W.I.C., reports that there are some 200 Amateurs who are interested in the theory in order to re-test for an exam. The class should be holding the class on Mondays and Wednesdays. Some new tapes have been added to the Taped Lecture Library. Included are No. 21, Communication Reception, designed by John VK3JH, and No. 22, as it was in the beginning, 90 minutes, 20 slides, by Joe Fedrizzi, VK3JH, 14 days of the publication of this report. 60 minutes. These, and other

tapes in the library, may be borrowed by writing to the Education Officer, W.I.C., Crows Nest.

Next month will be the start of the Field Day and Convention season. During the Six Hour Week-end there will be Conventions at both the Hunter Branch (Newcastle) and the South Coast Branch (Tumbarumba). These will be followed by the Blue Mountains Section and about a month later by the Illawarra Division of the W.I.A. at Wollongong, with one-day events.

Did you remember to send your A.D. log in?—ZZ7TH

SOUTH-WEST ZONE CONVENTION

This year the South-West Zone of the VK3 Division will hold the Annual Zone Convention at Tumbarumba on Sunday, the 10th, 11th and 12th October. A good roll-up is expected. The three-day programme is suitable for all interests. From Saturday 10th October, to Monday, the 11th, the Tumbarumba and District Radio Club will be host to their visitors.

On Saturday the focal point will be the Bolders' Memorial Hall. The morning will be registrations, etc. After lunch, there will be a River walk. In the afternoon the day will be followed by either a visit to the Trade Fair or a look round town. The Dinner will be at the Hunter Branch Dinner. This will be followed by a social evening.

The field events will be held on Sunday at the club including all the popular Convention activities. An all-band scramble, 2 metre fox hunt, 2 metre hidden tx hunt, 2 metre hidden rx hunt, 2 metre hidden field day event, the 2 metre pedestrian tx hunt. There will be a disposals and other novelty events. The evening will be devoted to social activities.

To finish the week-end, Monday will be spent in a tour of the Western side of the Snowy Mountains. It will lead to Albury, Murray I, Tooma Dam, Tumut Pond and Cabramurra. From here Sydney visitors will return by Coomera or by train. Visitors from Wagga and west will return via Tumbarumba.

Bookings for the week-end may be made with the Club Secretary, Trevor Hoodless, "Blue Hills," Tumbarumba. Motel accommodation, single £10, double 7/8 per person, and B. & S. dinner, 10/6. Registration, 10/6. Camping ground and Caravan Park at show-ground with electricity and H. and C. showers. Dinner 10/6. Registration, 10/6. Deposit on accommodation £1, please state which nights accommodation required.

Once again the South-West Zone Convention will be held at the Bolders' Memorial Hall, near and far, to get together and the Tumbarumba and District Radio Club members will be pleased to see you.

John and Vicki (pres.), Trevor Hoodless (V.K.3A.2).

CENTRAL COAST ANNUAL ZONE CLUB

The regular monthly meeting of the Central Coast Amateur Radio Club was held on Friday, July 18, at the School of Arts, Gosford, on the 18th. The meeting was held in the club's building. Hans was the visitor. After the general business, which unfortunately was rather lengthy, Lindsay VK3ON gave a short presentation on the use of transistors. He gave us information on how to judge the amplification quality of a transistor.

A number of surplus I.M. sets were received for donation, some of which were in good working order. After pulling names out of a hat, five lucky members went home with possibilities in the box.

A good hot cup of tea and delicious supper were enjoyed at the end of the evening. Our President, VK3JN, designed and made a receptacle for holding all our supper gear so that now there is a place for everything and everything in its place, so to speak. Ernie is formerly a male art teacher but since his retirement obviously has not lost his touch for excellence.

Great GUY VK3AI, is a very keen flyer and is working hard to join the exclusive fraternity of flyer-hams. He expects to have his plane approved in the near future. He is being well, and he certainly deserves it for he has put a lot of hard work and time into it. Geoff is a man of many interests and a well known and well liked character.

Quite a bit of interest is being generated in 432 mcs. Also VK3AAK was the first from this district to get on 432 working with Eddie VK3VIV. The VK3AAK is a very nice set up with an amplifier, but this seems to be a general condition for 432 amplifiers at the moment. The VK3AAK is a very nice set up. There has been a 432 g.d.o. going the rounds—

Phil VK3TX constructed it. Eddie VK3VIV calibrated it, and Lindsay touched it with magic and now it is giving yeoman service. Geoff VK3EA and John VK3EP are seriously considering taking the plane to 432.

Our meetings are held regularly on the third Friday of each month at the School of Arts, Gosford, 7.30 p.m. Anyone yaks to attend as a visitor will be very welcome. That's all the news for this month, 73, Mona VK3AJS.

SYDNEY YL's

The Sydney YL's had their regular quarterly meeting on July 13 and celebrated their first anniversary. They met at Hebe's QTH (VK3AOK) for lunch and the session which was thoroughly enjoyed by everyone as it seems this is their only opportunity to catch up on new items.

Muriel VK3AJA has received the Calgary Stampede Award for having contacted 10 stations in Calgary at the time of the Stampede. This is the biggest record in the world and is a very colorful affair with parades, attractive western-style clothes, and Canadian Indians in their native costumes adding to the general "wild west" atmosphere with displays of war dances, etc. Muriel also has three new Gold seals for her list.

Verle VK3EMR was enjoying a spell from work with three weeks' holidays. She and Al, Marc VK3CM, are searching for a suitable new QTH with a good landline with regard to serials but to date have not had any luck.

Hebe VK3AOK has had a trip to Perth and whilst there met VK3EYL and Al VK3ERL again, also met VK3EGL and VK3EKL, and VK3CGL Gilbert on his way over in Adelaide. Hebe and Mavis VK3K3 got together for a few hours in Melbourne between trains and I understand had a most enjoyable visit.

Mona VK3AJS is the country member of the Sydney YL's and at the moment is concentrating on picking lemons and oranges. Hebe recently had a visit from Pokey Clark VK3KX and XYL who were on their way to Queensland for a trip. Muriel and Verle were also able to meet them at the same time and had a most enjoyable and interesting time in reports of the Clark's recent overseas trip.

Raj KINZO and Hebe try to maintain a shed each Wednesday on 4320 mcs. at 0800 G.M.T. and 1400 G.M.T. in the morn. Raj is very active in the International Bideanders. 73, Mona VK3AJS.

VICTORIA

Divisional Council met during July, only one member not in attendance. Matters considered included the proposed W.I.C.E.N. office in September, possible repairs to the building, inclusion of Y.R.S. notes in Divisional Bulletin, and a report on the Club Book and the Federal Council's report, plus the usual routine matters.

The overall planning of the exercise is complete and it is now up to the individual groups to complete such plans as they deem necessary for the success of their part of the operation. We are now awaiting a report from the builder on the progress of the repairs to the building. Y.R.S. notes will be supplied by Dave Buck for broadcasting on 432 mcs. and the Y.R.S. report on his recent discussion with VK3 Federal Council, and subsequent correspondence on the subject of the Club Book and the Publication Committee. Viewpoint on what you've decided to save increasing the price of the book. VK3 Council feels the same way as our

friends in VK3, and therefore publication committee will be advised that it is considered advisable to include everything from the last issue, plus replacement of material deleted from previous issues even if it means more increase in price.

Considerable time was spent on Federal Counciling report, especially the submission made to the P.M.G.'s Department by F.Z. The Annual Dinner will be held at Menties' Bar, 501 Northcote, on Friday night. It is hoped that this year more members from north and west of the city will be able to attend and that it will not be necessary for them to cross town in peak traffic.

A regular general meeting took the form of a white elephant night. General business was quickly disposed of and the meeting held over to Harold B.F.Q. who, in a brief manner, disposed of most of the odds and ends available. The meeting closed officially at about 2300 hours, but most stayed on for a rag chew.

Do not forget the September meeting when the agenda item will be "Lasers".

WESTERN ZONE

By the time these notes appear in "A.R." the main item of interest will be the Zone Convention. At the time of the zone plans the committee will be able to assure visitors that they will be most welcome and will enjoy the day. Anyone interested should contact Bill VK3AOW in Melbourne.

Congratulations Lyla SASA on announcing your engagement, you must be a busy chap with A.G. and his wife, and also with Gordon and Bill SZAX are two who are going to these classes, so it looks as if Bill will be losing the 2 from his call sign shortly, and Roy was the guinea pig in the running 700-800 volts from a transformer the other day, so I would suggest that the local chaps sit attentively to their re-bellion before they let their hair down.

Hitting on a more serious note, friends of Alan 3HL will be sorry to hear that he has been in Stawell Hospital for some weeks. We as members of the club will be very sorry to hear of his illness.

Herb 3NN, his sister, Garry 3ZOS and Bob 3ARM and family paid us a visit the other Sunday to inspect the new shack. Garry 3ZOS is a very busy chap, but he has converted which he has recently completed. Bob has just purchased a new v.l.c. and p-coupler, so we will be able to see him and his shack and 3ARM's QTH. Bob's 3YL has just got a new electronic organ and was practicing one night when he heard VK3ARM calling CQ. He went forth from the speakers in the organ. I believe he was still calling CQ when the 3YL stormed into the shack, almost taking the door off its hinges. He was very angry and in a very abrupt manner what had happened and advised him not to let it happen again.

Don't haven't seen Garry 3ZOS for some time, guess he will see you at the convention, Barry.

Recent signals heard on 144 Mc include M. 3NN, 3ZAX, 3AOS, 3ATN, 3AFU, 3ZDR and Graham 3ZOP, who is teaching at Borden Town High School.

On the morning Bill 3ZAX's 3YL Rhonda and my 3YL Jill got going on 144 Mc, fortunately our power supplies are rated for 144 Mc, so we were not worried about that but lunch was about two hours late.

That's the lot for now, see you at the convention, 73, Tony 3ZAL.

QUEENSLAND

The August Meeting of the Council of the Queensland Division of the Wireless Institute of Australia was held in the Social Services' Club Rooms, Berwick Street, Valley, Brisbane, on Thursday night last. Despite cold weather there were a large number of visitors. The officers under the chairmanship of Lawrie VK4ZGL. Much business was disposed of. All sections of the Division are running along well. The Council has decided to publish a new edition of the "QTC". Another duplicate is to be acquired to make a bigger and better issue of "QTC". The Division's monthly amateur radio magazine.

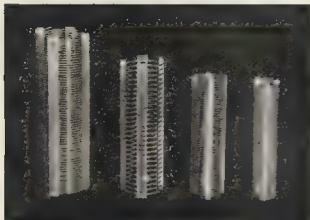
A quantity of I.M. transmitters and receivers are available at disposals for ballot and should be of interest to keen amateurs.

The first W.I.C.E.N. exercise, a small-scale one, was held last Sunday. Another exercise on a much larger scale is set down for 29th August.

IPSWICH AND DISTRICT RADIO CLUB

This club is still progressing well. They meet fortnightly at the Ipswich City Council have made land available for the Club and it is being cleared and levelled, for the benefit of the club house and QTH for the Club's official station, VK4DO.

AIR-WOUND INDUCTANCES



No.	Diam.	Turns per Inch	Length	B. & W. Equiv.	Price
1-08	1/8"	8	3"	No. 3002	5/3
1-16	1/8"	16	3"	No. 3003	5/3
2-08	3/8"	8	3"	No. 3006	6/3
2-16	3/8"	16	3"	No. 3007	6/3
3-08	3/8"	8	3"	No. 3010	7/4
3-16	3/8"	16	3"	No. 3011	7/4
4-08	1"	8	3"	No. 3014	8/5
4-16	1"	16	3"	No. 3015	8/5
5-08	1 1/8"	8	4"	No. 3018	10/6
5-16	1 1/8"	16	4"	No. 3019	10/6
8-10	2"	10	4"	No. 3907	13/9

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References: A.R.R.L. Handbook, 1961; "QST," March 1959; "Amateur Radio," December 1959.

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VKGO has been taking the six-metre call-backs after the VK4WI News on Sunday morning and this is proving very popular.

So popular was the Club's last 150-mile round tour that they have planned a trip to Mt. Tambourine later this month and the six metre mobiles will sure be out in force that day.

Gus VK4ZIV, a strong club supporter, has been transferred to VK3 land, and has donated his six metre gear to the Club and this will be used as the Official Station.

SUNSHINE STATE CONTEST

The contest was very well supported this year and increased activity on h.f. plus a good deal of v.h.f. activity. All-band winner was Reg VK4VX, h.f. bands winner, Geoff VK4FK, bands winner, Lloyd VK4ZLO, Listener's award, L-4108, Chas Thorpe.

C.Q. BRANCH

C.Q. branch activity from members has received some impetus with new members acquiring their call signs. There is a good deal of interest and contacts on six metres. In this regard there is Lyle VK4ZID, Lance VK4ZAZ, Dick VK4ZCK, Charles VK4ZBO, Bob VK4NG, and Doug VK4ZD. President, VK4VX, sees it that 50 and 60 mcs are well occupied, whilst 20 is the happy hunting ground most of the time for VK4FK, VK4SD and VK4DO, who is active again after some period of ill-health. Joe VK4CL has had some receiver trouble. Silas VK4SC is tackling some a.s.b. transmitter problems.

Arrangements are in hand for a prominent window display and float in the Copernicus Festival, depicting radio gear from 1815 to 1965, a period of 50 years. This will give the branch some good publicity. Again this year there will be active participation in the Jamboree-on-the-Air.

George VK4FK recently enjoyed a visit to the capital and met several of the boys down there, rumour has it a lot of time was spent in disposals stores.

Ken JATACH MM, chief radio operator on a coal ship plying from Japan to Glenelg is very active and visits Rockhampton when time allows. Hal VK4DO has taken him for a shack crawl to meet most of the local boys. 73, Hal VK4DO.

TOWNSVILLE AND DISTRICT

Nothing much to report since the last time I submitted the notes. Wonder if others are being troubled by the commercial short wave stations, or not. The w ones, around 14.15, 14.17, 14.21 Ray VK6RH can be a certainty to come up with one of them—apparently does not hear them at his place, while here they take over with the alignment fall in his signal strength.

Visitors to the shack this month were Bill and Betty VK4AVY, working mobile as they toured the north. Very sorry that Foley VK4CK did not call on me as we have QSO'd many a long year. He met John 4DD, also Ted 4EL. There have been some boys in the front during this tourist season but as they have not called on the boys, unable to report their movements. Bert 4GB and Merv 4DV, in camp for a fortnight, playing at being soldiers. Basil went up in Cairns, still trying hard to finish the new receiver, reports that not much being heard on the bands outside a few VK4s and XE. Have heard some VK3s working to Europe but so far unable to hear them here although I watch the frequency very closely when I hear the boys working them. Still hoping for a breakthrough. 73, Bob VK4RW.

SOUTH AUSTRALIA

The monthly general meeting of the VKS Division for July was held in the clubrooms at a somewhat below average attendance of members, due no doubt to the cold and wintry conditions existing at this time of the year.

I feel that I should mention the below average attendance, because it at least shows that our usual full house report at meetings are genuine, and an occasional below average attendance report helps to quieten the pangs of jealousy across the border with its attendant suggestion that we hold our meetings in a public telephone box.

The genial VK3 Chairman, Russ 3KX, opened the meeting a shade on the late side, probably in the hope that a few more members might roll up, by asking all present to stand for one minute in silence out of respect to our late member, Ted 3FK, at the conclusion of which the business side of the meeting was conducted. QSL cards were distributed by George 3KX, and the stage was then set for the two lectures listed for the night, the first being a talk on his new s.s.b. receiver

TASMANIA

Well, another A.D. Contest has come and gone, and if you haven't sent off your log yet you had better get it in the mail tonight. It is not to be postmarked later than the 6th September.

Ian TZZ is now established in his new shack (down the back yard) and apparently has it quite comfortable, more so than the verandah anyway, that is if you consider comfort with "on air" time.

Lee KCK now has a solid state s.s.b. rig on the air, and although I have not heard it myself, I am told it is quite a f.b. rig. Ted TEB is similar under construction, and at the time of writing is toying up whether to have a fully solid state unit or a valve final. Further details when available or when he makes up his mind.

Talking of duck talk, Bob 70M is now the proud owner of a Japanese s.s.b. rig, and reports it is indeed a very nice piece of equipment, and an excellent performer.

Friend Ted TEB put in an appearance at the August General Meeting, and looks much better (is that possible) after his three weeks' sojourn in VK3. Hope you continue to stay okay Ten when you get back to work.

Thanks are due to Bob 7KZ for volunteering as a broadcast officer, and no sooner did he offer than he was bunged on, but as a true Amateur he rose to the occasion on the Sunday time for breakfast first, too) and did his part in fine style.

Phone call tonight informed me that associate Hugh Hutchinson (that's right) from Hamilton, is off to Vancouver in early September, may we take this opportunity to wish you all the very best! Hugh, hope to see you back here some day.

Enough for this month, but please—don't forget to post that log, T3, Geoff TZA5.

NORTH-WEST ZONE

There is an old Chinese proverb, "He that does his neighbour in shall have hell fire and brimstone sent down upon his soul in revenge" or something like that anyway. The whole truth of the matter was that yours truly went along to last month's general meeting with all good intentions but, whether it was the aroma of sausage rolls filtering through from the supper room that did it, I don't know, but when the election of officers came up the fact was that not only was I quickly on the job of seconding a proposal to nominate George TEB as secretary again, but also dobed poor old Max TMX as Treasurer for a further term of office. Thinking that these were two jobs I had managed to wangle out of, when all of a sudden, this bombshell hit me.

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me with being landed with this task of more correspondence with a scanty editor, besides line I didn't like to let on to the meeting that I left college at the early age of eight years, hardly by that time being able to read or write! I will endeavour to do my best for the next twelve months.

The meeting was a huge success. Thirty persons, including visitors, being present—that I can accurately verify because I was self-imposed task as assistant dishwasher—up to Ray 7ZRS to prepare supper.

An 11.15. before, George was elected Secretary and Max TRESORER. However, for one moment I thought that I may have done the wrong thing in dobbing Max in because the learned gentleman suddenly hushed the meeting with the sad news that the Treasurer's report was very grim. I thought perhaps that he had embroiled the club funds and was about to make a full confession, but apparently he had thought about that idea once or twice but there just wasn't enough funds in kitty to run off with! So chaps, let's all pull our weight this next year and help the Zone along by paying your 5/- zone fee.

After general business was cleared up with, all members were entertained with some good films, shy shown by that genius of mechanics, no other than Max TRESORER, being the photographing of the surface of the moon by Mariner IV. Anyway, to cut a long story short, the members were all entertained by their cake-openers wide open in awe with the last photos of the lunar surface before the moment impact, a small fly creased across the screen and voice in the front row uttered out—I knew it, there is life on Mars after all!

I didn't have time to lay hidden mikes and don disguises to catch much gossip, but what I heard during supper varied from such conversations about salt encrusted insulators causing hard noise in coastal areas—you can't expect a million dollar view and no band noise as well, Max! There is a rumour that TZX is about to purchase a piece of commercial equipment—and that isn't duck talk either or is it? The only news I got from the Bureau was that Ken TAI is already ready for his fall flying ticket—we may soon have a mobile airborne signal flying above our midland. Ken TAI is thinking of purchasing a radio controlled golf balls to clinch the coming golf championships next week, while Bob Winston and Harry Young in the v.h.f. gang are getting ready for the summer DX, which prompts me to ask a very personal question, Harry, My, you have put on condition! I did, too, after I first got my level with ye old order of the Ball and Chain!

Well, as I said before, I didn't have time to really cut out and send you, but to keep you all posted next month, T3, TMS.

HAMADS

Minimum 5/-, for thirty words.

Extra words, 2d. each.

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